Table 3-6. Management Activities on Eastside Forestlands

Forest	Harvest				Thin				Prescribed Burning				Water-shed	Roads* Decrs.
Cluster	dry	moist	cold	**Total**	dry	moist	cold	**Total**	dry	moist	cold	**Total**	**Restr.**	**(%)**
						Acres (thousands per decade)								
ALTERNATIVE 1														
1	0	0	0	0	0	0	0	0	8-12	2-3	0-1	10-15	5-10	0-25
2	88-116	34-45	4-5	125-165	25-36	5-9	0-1	30-45	56-76	12-17	1-2	70-95	40-45	0-25
3	53-70	20-27	2-3	75-100	16-21	3-4	0-1	20-25	12-16	3-4	0-1	15-20	10-15	0-25
4	130-175	50-68	6-8	185-250	45-55	9-13	1-2	55-70	32-40	7-9	0-1	40-50	25-35	0-25
5	536-724	205-280	23-28	765-1035	234-312	18-68	2-4	255-385	140-188	32-42	3-5	175-235	100-135	0-25
6	60-81	23-31	2-3	85-115	12-16	2-3	0-1	15-20	12-16	3-4	0-1	15-20	10-15	0-25
Total	870-1170	330-450	35-45	**1235-1665**	330-435	70-100	5-10	**405-545**	260-345	60-80	5-10	**325-435**	**190-255**	
ALTERNATIVE 2														
1	0	0	0	0	0	0	0	0	8-12	2-3	0-1	10-15	20-25	0-25
2	13-16	6-8	0-1	20-25	13-20	5-7	2-3	20-30	56-76	12-17	1-2	70-95	120-165	0-25
3	36-52	17-24	3-4	55-80	13-20	5-7	2-3	20-30	12-16	3-4	0-1	15-20	30-40	0-25
4	104-140	48-65	8-11	160-215	53-72	19-26	8-11	80-110	32-40	7-9	1-2	40-50	25-35	0-25
5	247-328	114-152	19-25	380-505	191-254	70-92	29-39	290-385	140-188	31-42	3-5	175-235	100-135	25-50
6	16-23	8-11	1-2	25-35	10-13	3-5	1-2	15-20	12-16	3-4	0-1	15-20	10-15	0-25
Total	415-555	190-260	35-45	**640-860**	280-380	100-140	45-55	**425-575**	260-345	60-80	5-10	**325-435**	**305-415**	
ALTERNATIVE 3														
1	0	0	0	0	4-9	0-1	0-1	5-10	35-44	4-5	0-2	40-50	20-25	0-25
2	60-79	18-24	1-2	80-105	53-70	6-8	1-2	60-80	203-274	23-31	5-6	230-310	120-165	25-50
3	38-53	12-16	0-1	50-70	35-44	4-5	1-2	40-50	48-70	6-8	0-2	55-80	30-40	25-50
4	98-131	30-40	2-3	130-175	88-123	10-14	2-3	100-140	57-79	7-9	0-2	65-90	25-35	25-50
5	431-585	132-179	12-16	575-780	348-466	40-53	8-10	395-530	454-617	52-70	10-14	515-700	100-135	50 +
6	26-38	8-12	0-1	35-50	35-44	4-5	1-2	40-50	44-57	5-7	0-2	50-65	10-15	0-25
Total	655-885	200-270	15-25	**870-1180**	560-755	65-85	15-20	**640-860**	845-1145	95-125	15-25	**955-1295**	**305-415**	
ALTERNATIVE 4														
1	0	0	0	0	8-12	1-2	1-2	10-15	46-63	9-9	2-3	55-75	20-25	0-25
2	62-82	11-14	3-4	75-100	86-120	14-18	5-7	105-145	277-378	40-54	13-18	330-450	190-260	25-50
3	37-53	6-9	2-3	45-65	37-50	6-8	2-3	45-60	59-80	8-11	3-4	70-95	30-40	25-50
4	111-144	19-25	5-7	135-175	94-128	15-19	6-8	115-155	126-172	18-25	6-8	150-205	70-100	25-50
5	529-718	90-123	26-35	645-875	365-495	58-75	22-30	445-600	605-815	86-116	29-39	720-970	280-380	50 +
6	29-41	5-7	1-2	35-50	37-50	6-8	2-3	45-60	46-63	7-9	2-3	55-75	10-15	25-50
Total	765-1035	130-180	40-50	**935-1265**	630-860	95-125	40-50	**765-1035**	1160-1570	165-225	55-75	**1380-1870**	**600-820**	

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Table 3-6. Management Activities on Eastside Forestlands (continued)

Forest	Harvest				Thin				Prescribed Burning				Water-shed	Roads* Decrs.
Cluster	dry	moist	cold	**Total**	dry	moist	cold	**Total**	dry	moist	cold	**Total**	**Restr.**	**(%)**
						Acres (thousands per decade)								
ALTERNATIVE 5														
1	0	0	0	0	4-7	1-2	0-1	5-10	15-19	4-5	0-1	20-25	20-25	0-25
2	55-73	19-25	1-2	75-100	40-55	11-15	4-5	55-75	161-219	43-58	11-15	215-290	120-165	0-25
3	40-51	14-18	0-1	55-70	33-44	9-12	3-4	45-60	41-56	11-15	3-4	55-75	30-40	25-50
4	139-190	48-65	4-5	190-260	73-101	20-27	7-9	100-135	52-71	14-19	4-5	70-95	25-35	0-25
5	489-664	168-228	13-18	670-910	277-379	76-103	27-34	380-515	368-500	98-133	25-32	490-665	280-380	25-50
6	55-73	19-25	1-2	75-100	22-29	6-8	2-3	30-40	34-45	9-12	2-3	45-60	10-15	0-25
Total	780-1055	270-360	15-25	**1065-1440**	450-620	125-165	40-50	**615-835**	670-915	180-240	45-55	**895-1210**	**485-660**	
ALTERNATIVE 6														
1	0	0	0	0	8-12	1-2	0-1	10-15	29-41	4-6	2-3	35-50	20-25	0-25
2	62-87	8-12	5-6	75-105	82-111	13-18	5-7	100-135	205-279	30-41	15-20	250-340	120-165	25-50
3	25-33	3-4	1-2	30-40	29-41	5-7	2-3	35-50	53-70	8-10	4-5	65-85	30-40	50+
4	129-170	17-23	9-12	155-205	94-127	15-20	6-8	115-155	123-168	18-25	9-12	150-205	70-100	25-50
5	386-527	51-70	28-38	465-635	357-476	57-75	22-29	435-580	578-775	85-113	42-57	705-945	280-375	25-50
6	33-42	4-6	2-3	40-50	25-33	4-5	1-2	30-40	41-57	6-8	3-4	50-70	10-15	0-25
Total	635-865	85-115	45-55	**765-1035**	595-805	95-125	35-45	**725-975**	1025-1385	155-205	75-105	**1255-1695**	**530-720**	
ALTERNATIVE 7														
1	0	0	0	0	0	0	0	0	9-13	0-1	0-1	10-15	5-10	0-25
2	0	0	0	0	0-4	0-1	0-1	0-5	26-34	1-2	2-3	30-40	40-45	25-50
3	4-8	1-2	0-1	5-10	4-9	0-1	0-1	5-10	69-95	5-7	6-9	80-110	10-15	50+
4	24-32	5-7	1-2	30-40	35-44	2-3	3-4	40-50	77-103	5-7	7-10	90-120	25-35	25-50
5	158-207	33-43	4-5	195-255	183-239	13-17	15-19	210-275	606-817	42-57	56-76	705-950	100-135	50+
6	8-12	2-3	0-1	10-15	4-9	0-1	0-1	5-10	77-103	5-7	7-10	90-120	10-15	0-25
Total	195-260	40-50	5-10	**240-320**	225-300	15-20	20-30	**260-350**	865-1170	60-80	80-105	**1005-1355**	**190-255**	

* Includes primarily native surface roads

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Table 3-7. Management Activities on Eastside Rangelands

Range Cluster	Livestock Management				Improve Rangelands				Prescribed Burning				Roads* Riparian Restr.	Roads* Decrs. (%)
	dry grass	dry shrub	cool shrub	**Total**	dry grass	dry shrub	cool shrub	**Total**	dry grass	dry shrub	cool shrub	**Total**		
						Acres (thousands per decade)								
ALTERNATIVE 1														
1	5-10	25-35	5-10	35-55	5-10	15-25	5-10	25-45	5-10	0	10-15	15-25	0-5	0-25
2	0	5-10	0	5-10	0	0	0	0	0	0	0	0	0-5	0-25
3	0	5-10	0	5-10	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
5	20-25	45-60	20-25	85-110	10-15	35-45	10-15	55-75	10-15	0	30-45	40-55	10-15	0-25
6	45-60	135-175	45-60	225-295	30-35	95-115	35-40	160-190	35-40	0	90-110	125-150	20-25	0-25
Total	70-95	215-295	70-95	**355-485**	45-60	145-195	50-65	**240-320**	50-65	0	130-175	180-240	30-50	
ALTERNATIVE 2														
1	20-25	80-110	25-35	125-170	5-10	20-25	5-10	30-45	5-10	0	15-20	20-30	0-5	0-25
2	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0	0	5-10	0-25
3	0	5-10	0-5	5-15	0	0	0	0	0	0	0	0	0	0-25
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
5	35-45	150-200	45-60	230-305	15-20	40-50	10-15	65-85	5-10	0	35-45	40-55	5-10	0-25
6	100-145	445-585	140-185	685-915	10-15	100-125	35-40	145-180	20-25	5-10	95-115	120-150	20-25	0-25
Total	155-215	680-915	210-285	**1045-1415**	30-45	160-210	50-65	**240-320**	30-45	5-10	145-185	180-240	30-50	
ALTERNATIVE 3														
1	20-25	90-120	20-25	130-170	15-20	60-75	15-20	90-115	5-10	0	60-75	65-85	5-10	0-25
2	0	5-10	0	5-10	0	0	0	0	0	0	0-5	0-5	0	0-25
3	0	5-10	0-5	5-15	0	0	0	0	0	0	0-5	0-5	0	0-25
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
5	35-50	160-210	35-45	230-305	25-35	120-160	25-35	170-230	10-15	0	120-160	130-175	20-30	0-25
6	100-140	475-630	100-140	675-910	65-90	315-425	65-90	445-605	0	0	120-150	120-150	55-70	0-25
Total	155-215	735-985	155-215	**1045-1415**	105-145	495-665	105-145	**705-955**	15-25	0	300-400	315-425	80-110	
ALTERNATIVE 4														
1	20-25	95-130	10-15	125-170	15-20	65-80	5-10	85-110	10-15	0	95-125	105-140	15-20	50+
2	0	5-10	0	5-10	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
3	0	10-15	0	10-15	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
5	60-85	305-410	45-55	410-550	25-35	130-165	20-25	175-225	5-10	0-5	130-155	135-170	20-30	0-25
6	180-245	900-1205	120-170	1200-1620	105-145	530-720	70-90	705-955	0	0	115-150	115-150	55-75	25-50
Total	260-355	1315-1775	175-240	**1750-2370**	145-200	725-980	95-125	**965-1305**	15-25	0-5	340-445	355-475	90-125	

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Table 3-7. Management Activities on Eastside Rangelands (continued).

Range Cluster	Livestock Management				Improve Rangelands				Prescribed Burning				Roads* Riparian Restr.	Roads* Decrs. (%)
	dry grass	dry shrub	cool shrub	**Total**	dry grass	dry shrub	cool shrub	**Total**	dry grass	dry shrub	cool shrub	**Total**		
	Acres (thousands per decade)													
ALTERNATIVE 5														
1	0-5	35-45	5-10	40-60	0-5	20-25	5-10	25-40	25-35	0	40-50	65-85	5-10	25-50
2	0	5-10	0-5	5-15	0	0	0	0	0	0	0-5	0-5	0	0-25
3	0	5-10	0-5	5-15	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
5	10-15	185-245	35-45	230-305	0-5	50-65	5-10	55-80	5-10	5-10	40-45	50-65	20-30	0-25
6	35-45	550-730	105-135	690-910	20-25	360-485	75-95	455-605	25-30	0-5	90-110	115-145	55-70	0-25
Total	45-65	780-1045	145-200	**970-1310**	20-35	430-585	85-105	**535-725**	55-75	5-15	170-220	230-310	80-110	
ALTERNATIVE 6														
1	20-25	95-130	10-15	125-170	10-15	60-85	10-15	80-115	5-10	0	100-135	105-145	15-20	25-50
2	0	0-5	0	0-5	0	0	0	0	0	0	0-5	0-5	0	0-25
3	0	10-15	0	10-15	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
5	60-85	305-410	45-55	410-550	5-10	50-60	5-10	60-80	5-10	0	125-160	130-170	20-30	0-25
6	185-245	900-1210	120-170	1205-1625	75-100	335-445	45-55	455-600	5-10	0	115-145	120-155	55-75	25-50
Total	265-355	1310-1775	175-240	**1750-2370**	90-125	445-600	60-80	**595-805**	15-30	0	340-455	355-485	90-125	
ALTERNATIVE 7														
1	15-20	25-35	15-20	55-75	5-10	15-20	5-10	25-40	5-10	0	60-80	65-90	0-5	22-50
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0-25
3	0	0-5	0	0-5	0	0	0	0	0	0	0	0	0	25-50
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
5	30-35	60-80	30-40	120-155	15-20	30-40	15-20	60-80	0	0	130-170	130-170	10-15	0-25
6	115-160	240-320	115-155	470-635	40-50	75-95	40-50	155-195	0	0	110-150	110-150	60-70	25-50
Total	160-215	325-445	160-215	**645-875**	60-80	120-160	60-80	**240-320**	5-10	0	300-405	305-415	70-90	

* Includes primarily native surface roads

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Comparison of Alternatives

This section compares the seven alternatives in three ways. First, the theme of each alternative is briefly stated in Table 3-8. Second, a comparison is made between the "No Action" alternatives (Alternatives 1 and 2) and the "Action" alternatives (Alternatives 3 to 7). Third, a relative comparison of the effects of the alternatives is made, summarizing the estimation of effects described in detail in Chapter 4.

Table 3-8. Comparison of Alternatives by Theme

Alternative 1. No Action

Continues management specified under existing Forest Service or BLM land use plans. Includes direction from 31 National Forest Plans and 44 BLM Plans.

Alternative 2

Applies recent interim direction (PACFISH, INFISH, and Eastside Screens) as the long-term strategy for lands administered by the Forest Service or BLM. All other direction from existing plans would continue. Direction in Alternative 1 would apply to areas not covered by interim direction.

Alternative 3

Updates existing Forest Service or BLM plans in response to changing conditions. Minimizes changes to local plans, addressing only priority conditions that most hinder effectiveness or legal conditions. Provides a broader dimension and more integrated management regarding priority large-scale issues than Alternatives 1 or 2.

Alternative 4

Aggressively restores ecosystem health through active management using an integrated ecosystem management approach. Priority is placed on forest, rangeland, and watershed health. Actions are designed to produce economic benefits whenever practical.

Alternative 5

Emphasizes production of goods and services consistent with ecosystem management principles. Areas are targeted for specific uses based on biological capability and economic efficiency; other uses may occur but conflicts would be resolved in favor of the priority use.

Alternative 6

Emphasizes an adaptive management approach to restore and maintain ecosystems while providing for social and economic needs. Takes a slower, more cautious approach than most other alternatives and implies the use of experimental processes, local research, and extensive monitoring.

Alternative 7

Emphasizes reducing risks to ecological integrity and species viability by establishing a system of reserves on lands administered by the Forest Service or BLM. Reserves are selected for representation of vegetation and rare animal species. Management activities are limited within reserves and are similar to that of Alternative 3 outside reserves.

Differences Between the Alternatives

In general, there are several differences between the "no action" alternatives, which reflect current BLM and National Forest land and resource management plans, and the "action" alternatives. Many aspects of these existing plans are still accurate and appropriate, as are many approaches to dealing with local issues. Certain broader scale issues, however, have been more challenging to resolve on a unit by unit basis. There are 75 BLM and National Forest management plans within the project area. These plans were approved over a 15- to 20-year time period, and they do not reflect consistent approaches to broad-ranging issues, such as declines in cold water fish and riparian habitat, concerns about mature or old forests, and the expansion of exotic weed species. Alternatives 3 through 7 attempt to portray consistent interagency approaches to these broad-ranging issues, as well as applications of evolving ecosystem management principles. Alternatives 1 and 2 represent existing Forest Service and BLM land use plans and current direction. The management of Forest Service- or BLM-administered lands would shift in varying degrees towards an ecosystem-based landscape approach under Alternatives 3 through 7. This means that these lands would be managed as a whole within watersheds and as connected lands between watersheds. Where forestlands and rangelands are intermingled within watersheds, or between watersheds, they would be managed for connected flows of resources and habitats. Hydrologic and riparian systems within watersheds would be managed as integral networks of forest and rangelands. Through time, the implementation of activities to restore landscapes and produce commodities would be prioritized to achieve integrated landscape, aquatic, and terrestrial integrity, and social and economic resiliency and would be concentrated in time and space to better reflect the biophysical template.

Some of the more substantial differences between the "no action" and "action" alternatives are as follows.

"No Action" Alternatives (Alternatives 1 and 2)

Many current plans describe desired future conditions but have emphasis on commodity production with mitigation for other resource values. In forested ecosystems, these plans typically reflect more traditional approaches, emphasizing even-aged management with small patch sizes scattered across the landscape. On land suitable and available for timber production, timber yields were optimized within the constraints of standards and guidelines, often relying on improved genetic stocks and in some cases, fertilization. Timber volume generally is produced from all size classes, including large diameter trees. On rangelands, among other things, strategies often equate stocking levels of domestic livestock with the capacity of the land. There is less emphasis on managing the landscape in ways similar to how native species evolved.

"Action" Alternatives (Alternatives 3 through 7)

Focus is on developing a range of vegetative structures where it has declined throughout the project area, to reflect conditions expected under more natural disturbance regimes. Most volume comes from smaller size and age classes from thinnings or removal of smaller trees to sustain residual overstory trees. On both forest and rangelands, more reliance on the use of prescribed fire to restore patterns and structure more consistent with those in which these systems evolved.

Continued on the next page

There is no overall cold water aquatic and riparian management strategy. Parts of the planning area are covered under the Northwest Forest Plan, PACFISH, or INFISH. Some of the rangelands are not covered by any of these and rely on what is in the respective plans.	More consistent approach to managing aquatic and riparian resources, with primary management goals and objectives to maintain or improve aquatic/ riparian functions and processes. Strategies in these alternatives address the linkages between riparian areas and uplands, relating this to overall watershed function.
Although current plans generally include prescribed fire, thinning, and other vegetative management activities, there is little emphasis on working with natural disturbance patterns and processes across the landscape.	More emphasis on effectively working with natural disturbance patterns and processes across landscapes.
Generally, current plans were the best attempt at the time to provide sustainable goods and services for people.	Emphasis on appropriate ecosystem analysis to determine desirable pattern, structure, and composition of vegetation that more closely considers natural disturbance events and regimes. Emphasis is on what pattern, structure, and composition are desirable to carry into the future. Resource outputs exceed those needs available for social and economic benefits to society.
Same as above.	Activity locations and expected management treatments would be more closely focused on restoring ecosystem function, process, and structure.
Public participation in natural resource decision making is generally driven by NEPA, and the emphasis varies by administrative unit.	Stronger emphasis on how decisions are made on public lands. Recognize the need for meaningful participation at all levels, and recognize unique needs and contributions of tribes and local governments.
Most land use plans were developed prior to the Forest Service and BLM adopting policies of ecosystem based approaches to management activities. Existing plans often recognized that current conditions may differ from desired conditions. Now, there is better understanding of how the ecosystems function and are influenced by Forest Service and BLM management activities and natural events and processes.	Recognize that some systems have elements that reflect shifts from healthy functioning conditions, which have occurred for several reasons over a long period of time. Effects of past management from timber harvest, livestock grazing, road construction, and fire exclusion have altered systems. Some of this is desired by society, while some creates long-term challenges. Other events, such as climate cycles, exotic weed expansion, and management of non-federal lands influence how these federal lands are managed, and vice versa. These interactions are more fully considered than under existing plans.

Comparison of the Effects of Alternatives

Chapter 4 describes the environmental consequences of the alternatives in detail. This section provides a summary of those effects, using a relative comparison among alternatives for the ten evaluation criteria (see sidebar below).

The EIS Team developed the evaluation criteria to reflect the *Purpose and Need* statement and *issues* in Chapter 1 and *goals* for the alternatives in Chapter 3. The action alternatives (Alternatives 3 through 7) were developed to respond to the evaluation criteria. With the diversity of species, physical environments, landscape conditions, trends, communities, and cultures in the planning area, it would not be possible for any alternative to fully meet all the evaluation criteria. In some cases, fully meeting one criterion could lead to risks and trade-offs in other criteria.

Each evaluation criterion is made up of one or more subparts, called *indicator variables*. These variables (both individually and in combination) give a relative indication, based on findings of the Science Team, of how well the alternatives respond to the evaluation criteria. The alternatives were graphed for each indicator variable using a relative ranking system with a scale of 0 to 10. The alternative that rated the highest was assigned a rating of 10 and the other alternatives were rated relative to that alternative.

Indicator variables are made up of one or more *causal variables.* In most cases, the graphs of indicator variables, with reference to their respective causal variables, were adequate to illustrate the relative ranking of alternatives. In a few cases, causal variable graphs were included.

Following the graphs are a few paragraphs for each evaluation criterion summarizing the relative effects among alternatives. The evaluation criteria process provided valuable information in the selection of a Preferred Alternative. For more detailed information on the effects, see Chapter 4 of this DEIS, (Environmental Consequences), or the *Evaluation of EIS Alternatives by the Science Integration Team* (Quigley et al. 1997).

Evaluation Criteria ~ Ten questions reflecting the Purpose and Need, issues, and goals used to rank the effects of the alternatives relative to each other.

Indicator Variables ~ The components of evaluation criteria, which are themselves made up of causal variables.

Ranking ~ For each indicator variable, the alternative that rated the highest was assigned a rating of 10. The other alternatives were rated relative to that alternative. The ranking of indicator variables is for both short-term (10 years) and long-term (50 to 100 years) effects unless otherwise noted.

Evaluation Criteria / Indicator Variables

1. **To what extent does each alternative affect forest health and natural disturbance processes?**
   - IV#1 Stand Structure and Composition
   - IV#2 Ecosystem Process and Function
   - IV#3 Resilience to Stresses

2. **To what extent does each alternative affect rangeland health and natural disturbance processes?**
   - IV#1 Noxious Weeds
   - IV#2 Woody Species
   - IV#3 Restoration
   - IV#4 Grazing Pressure
   - IV#5 Ecosystem Analysis at the Watershed Scale

3. To what extent does each alternative affect aquatic and riparian health?

- IV#1 Watershed, Aquatic, and Riparian Protection
  - Standards
  - RCAs
- IV#2 Watershed, Aquatic, and Riparian Restoration
  - Road Decommissioning and Obliteration
  - Road Closure
  - Restoration Acres
- IV#3 Short-term Risk and Uncertainty
  - Ecosystem Analysis at the Watershed Scale
  - Management Disturbance
- IV#4 Long-term Risk and Uncertainty
- IV#5 Habitat to Support Viable Fish Populations

4. To what extent does each alternative affect landscape health?

- IV#1 Landscape Health
  - Short-term
  - Long-term
- IV#2 Landscape Health Cost

5. How does each alternative contribute to long-term viable populations of terrestrial species?

- IV#1 All Species at-risk
- IV#2 Riparian Associated Species at-risk
- IV#3 Snag/downed Wood Dependent Species at-risk
- IV#4 Species at-risk Improved by Upland Restoration
- IV#5 Species at-risk Improved by Lower Road Density
- IV#6 Fewest Unfavorable Habitat Outcomes for Species at-risk

6. How does each alternative contribute to long-term recovery and delisting of threatened and endangered species?

- IV#1 Bald Eagle
- IV#2 Fish

7. To what extent does each alternative respond to Federal trust responsibilities and tribal rights and Interests?

- IV#1 Effective Consultation
- IV#2 Tribal Rights and Interests
- IV#3 Access
- IV#4 Places: Specific Landscapes Based on Meanings and Images
- IV#5 Ethno-habitats Usability

8. What annual level of goods and services is provided by each alternative?

- IV#1 Livestock Production
- IV#2 Timber Volume
- IV#3 Recreation Value

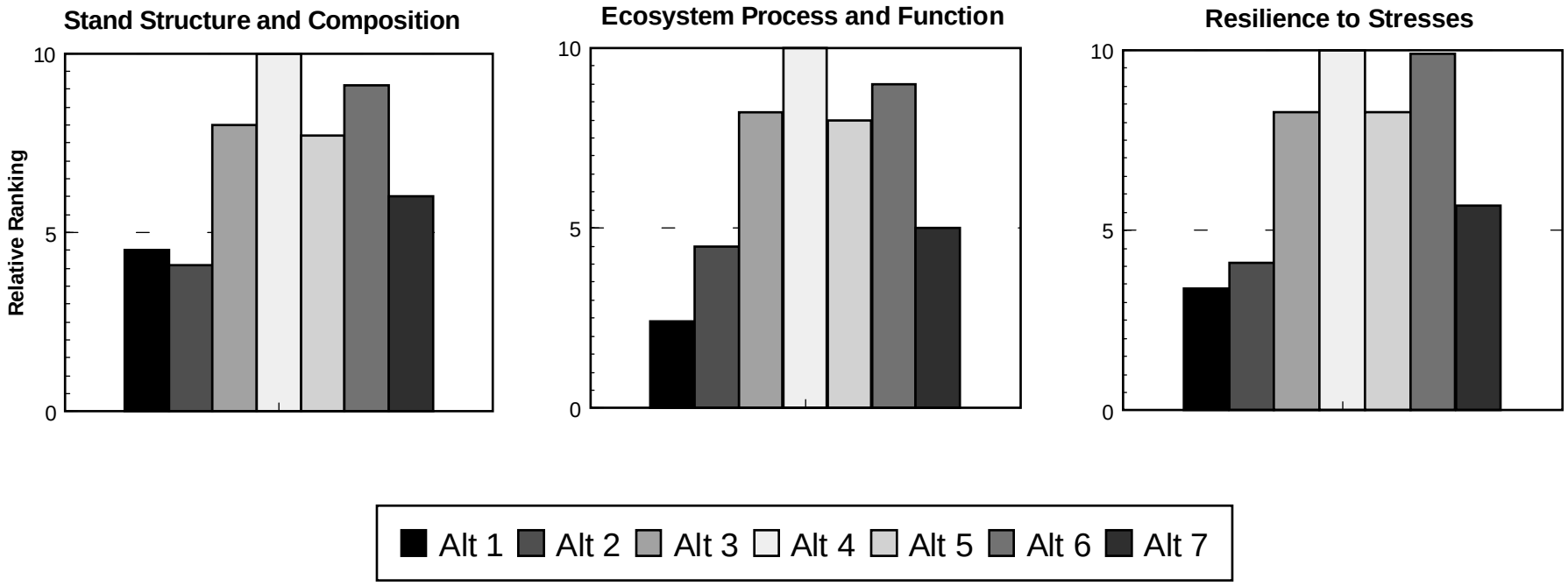
9. What are the effects of each alternative on community vitality and resiliency?

- IV#1 Timber Jobs
- IV#2 Ranching Jobs
- IV#3 Recreation Jobs
- IV#4 Restoration Jobs

10. What are the effects of each alternative on quality of life for project area residents?

- IV#1 Environmental Risk Reduction (short-term and long-term)
- IV#2 Economic Opportunity

EC 1: To what extent does each alternative affect forest health and natural disturbance processes?



Stand Structure and Composition: Long-term relative ranking of alternatives based on projected similarity to Historical Range of Variability using the following stand characteristics: 1) structure of young, mature, and old forests; 2) large tree component; and 3) tree species composition; and 4) density.

Ecosystem Process and Function: Long-term relative ranking of alternatives based on projected 1) coarse woody debris levels; 2) soil disturbance; 3) nutrient cycling; 4) road restoration; 5) hydrologic function; and 6) carbon cycling.

Resilience to Stresses: Long-term relative ranking of alternatives based on the ecosystem's projected ability to withstand the following stresses: 1) wildfire; 2) insects and disease; 3) climatic; and 4) noxious weeds.

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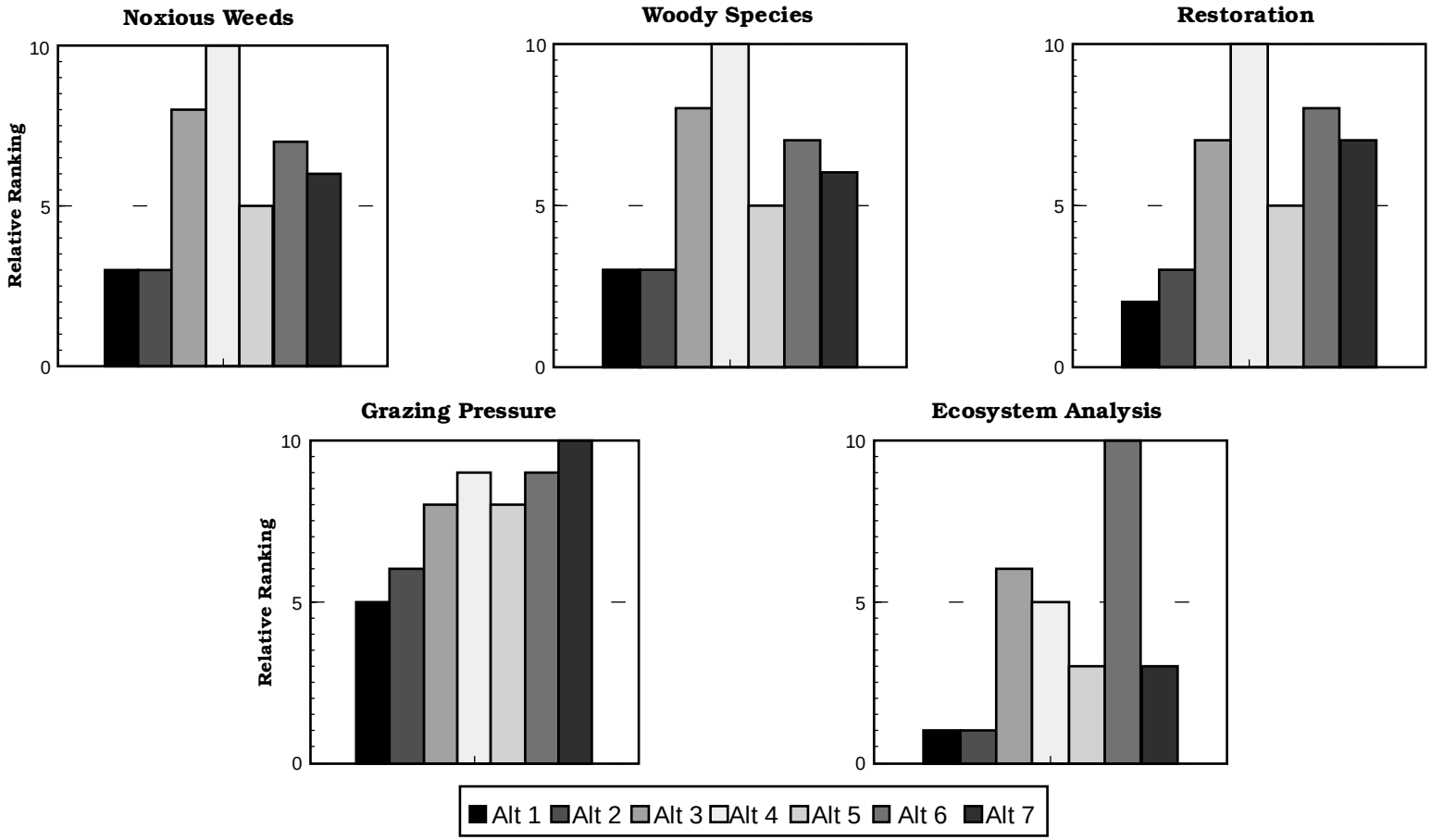
EC 2: To what extent does each alternative affect rangeland health and natural disturbance processes?



Noxious Weeds: Relative ranking of alternatives based on effectiveness in reducing the spread of weeds using IWM standards, road management standards, and management activity tables for range improvement.

Woody Species: Relative ranking of alternatives based on effectiveness in reducing the density of juniper, conifers and sagebrush using standards and management activity tables for range improvement and prescribed burning.

Restoration: Relative ranking of alternatives based on effectiveness in restoring rangelands using standards and management activity tables for livestock management and range improvement.

Grazing Pressure: Relative ranking of alternatives based on effectiveness in reducing grazing pressure on rangelands using the standards and management activity tables for livestock management.

Ecosystem Analysis: Short-term relative ranking of alternatives based on effectiveness in reducing risk of management actions using the amount of acreage requiring ecosystem analysis.

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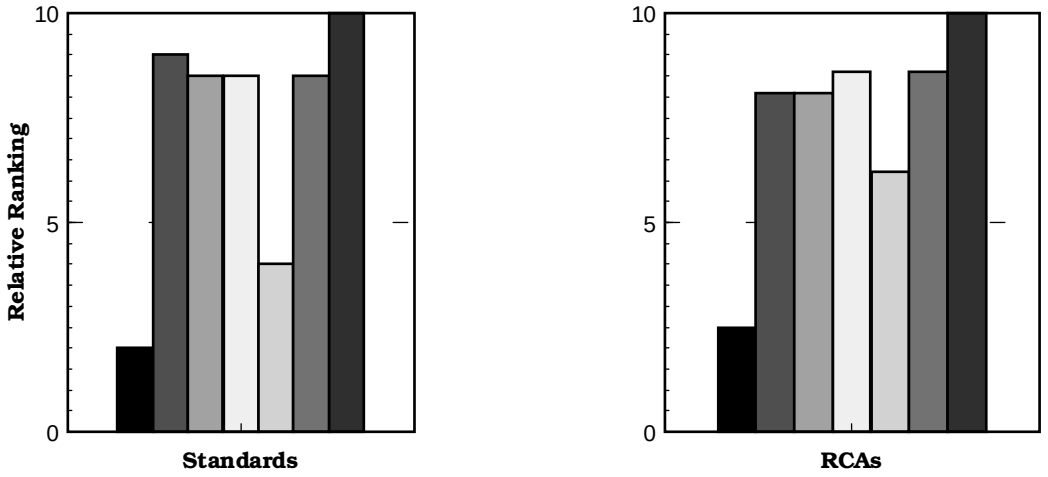
EC 3: To what extent does each alternative affect aquatic and riparian health?

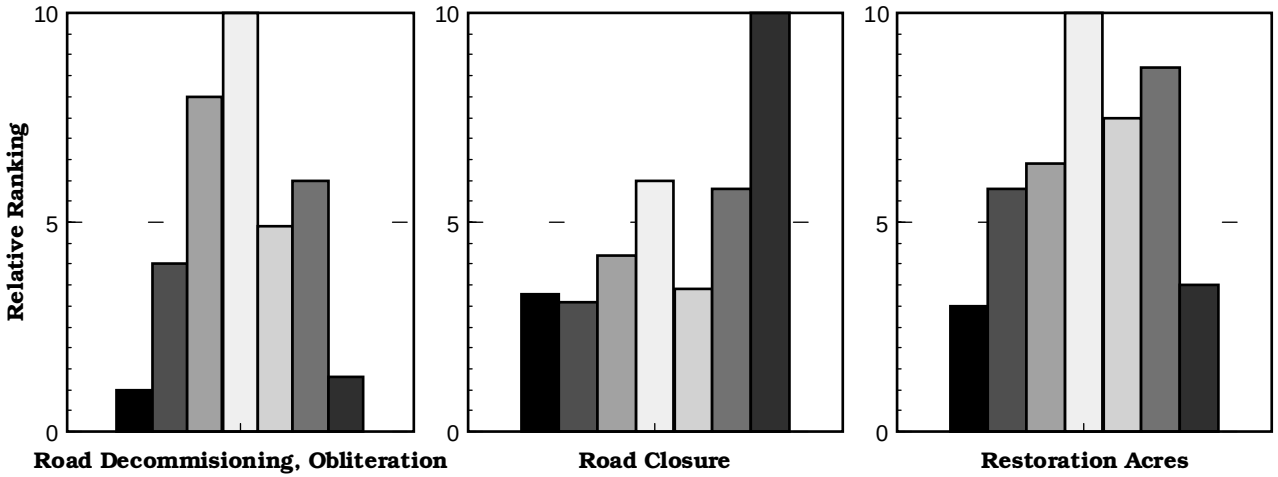
Watershed, Aquatic, and Riparian Protection



Standards: Short-term relative ranking of alternatives based on the protective or conservative nature of aquatic and riparian management standards. The highest bar reflects the most conservative management approach.

RCAs: Short-term relative ranking of alternatives based on the amount of land within Riparian Conservation Areas (RCAs), with the highest bar reflecting the greatest area. Alternatives 2 through 7 do not account for landslide prone areas. Also, the slope adjustment factor is not included in Alternatives 4, 5, and 6 which would increase RCA area.

Watershed, Aquatic, and Riparian Restoration



Road Decommissioning and Obliteration: Short-term relative ranking of alternatives based on road decommission and obliteration miles used in the cost analysis. The highest bar reflects the greatest amount of road decommissioning and obliteration.

Road Closure: Short-term relative ranking of alternatives based on road closure miles used in the cost analysis. The highest bar reflects the greatest amount of road closure.

Restoration Acres: Short-term relative ranking of alternatives based on the amount of watershed and riparian restoration acres shown in the activity tables with the highest bar reflecting the greatest amount.

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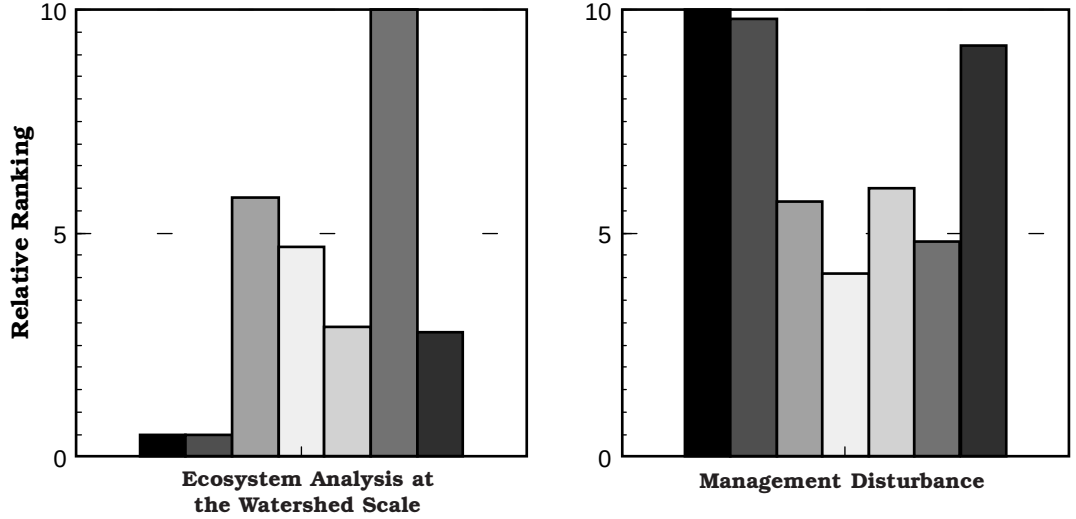
EC 3: To what extent does each alternative affect aquatic and riparian health? (continued)

Short-term Risk and Uncertainty

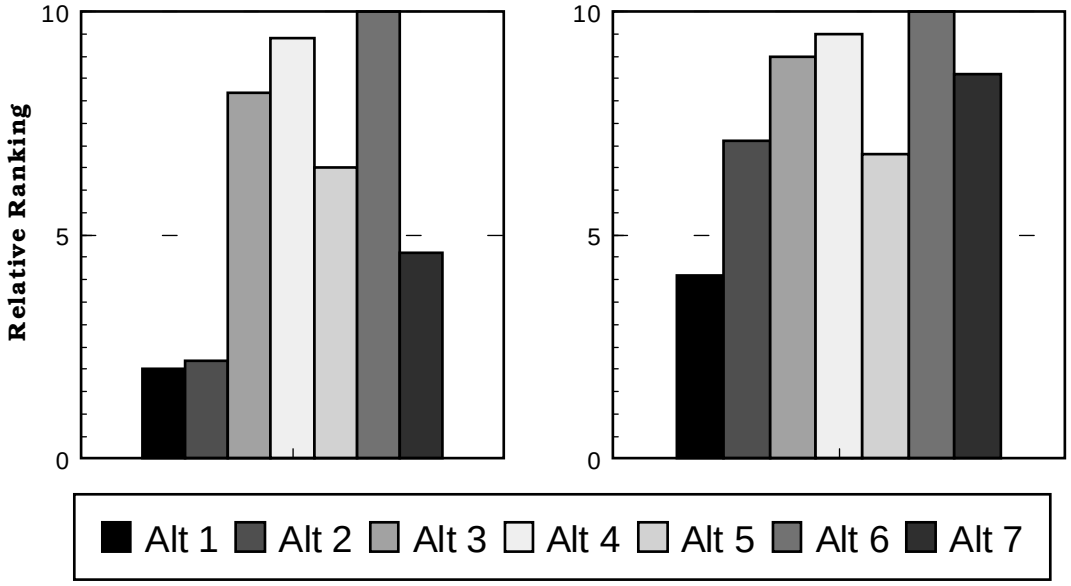


Ecosystem Analysis at the Watershed Scale: Short-term relative ranking of alternatives based on the potential amount of ecosystem analysis at the watershed scale. The assumption is that ecosystem analysis at the watershed scale reduces short term risk (<10 years) and uncertainty of outcomes to watershed, aquatic, and riparian resources. The highest bar reflects the alternative with the greatest potential amount of ecosystem analysis at the watershed scale.

Management Disturbance: Short-term relative ranking of alternatives based on the amount of management activities shown in the activity tables excluding road decommissioning, obliteration, and closure. The assumption is that the greater the rate of managment activity, the higher liklihood of short term risk (<10 years) to watershed, aquatic, and riparian resources. The highest bar reflects the alternative with the lowest short term risk as measured by activity rate.

Long-term Risk and Uncertainty

Habitat to Support Viable Fish Populations



Long-Term Risk and Uncertainty: Long-term relative ranking of alternatives based on the similarity of landscape pattern, disturbance regime, and vegetation structure to historic. The assumption is that the greater the similarity to historic conditions, the lower the risk to watershed, aquatic, and riparian resources in the long term (50-100 years). The highest bar reflects the alternative with the greatest similarity to historic.

Habitat to Support Viable Fish Populations: Long-term relative ranking of alternatives based on the previous aquatic and riparian indicator variables. The highest bar reflects the alternative that best maintains viability requirements for fish species.

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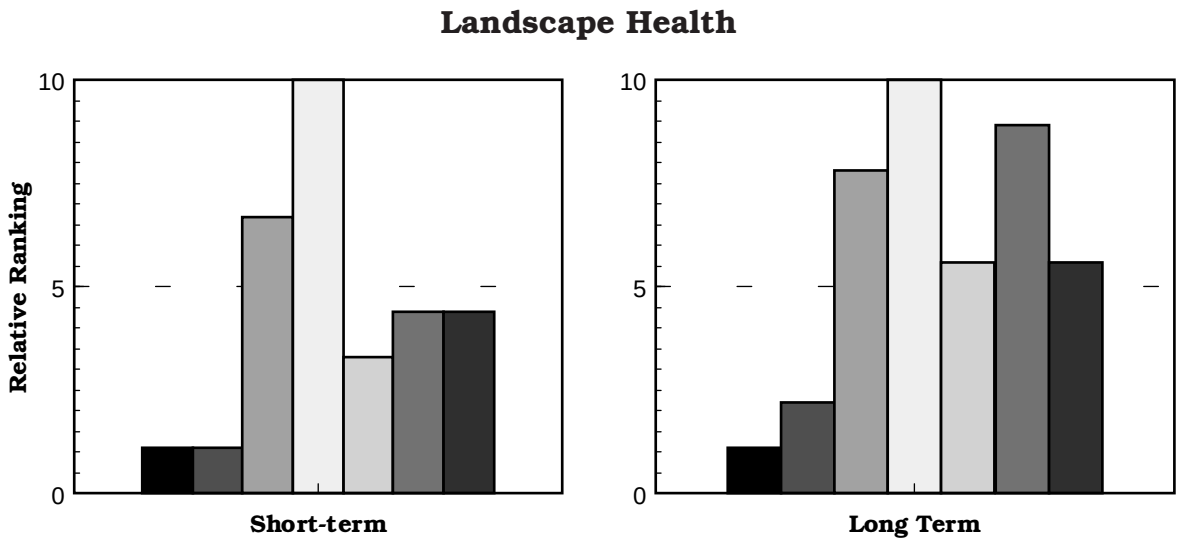
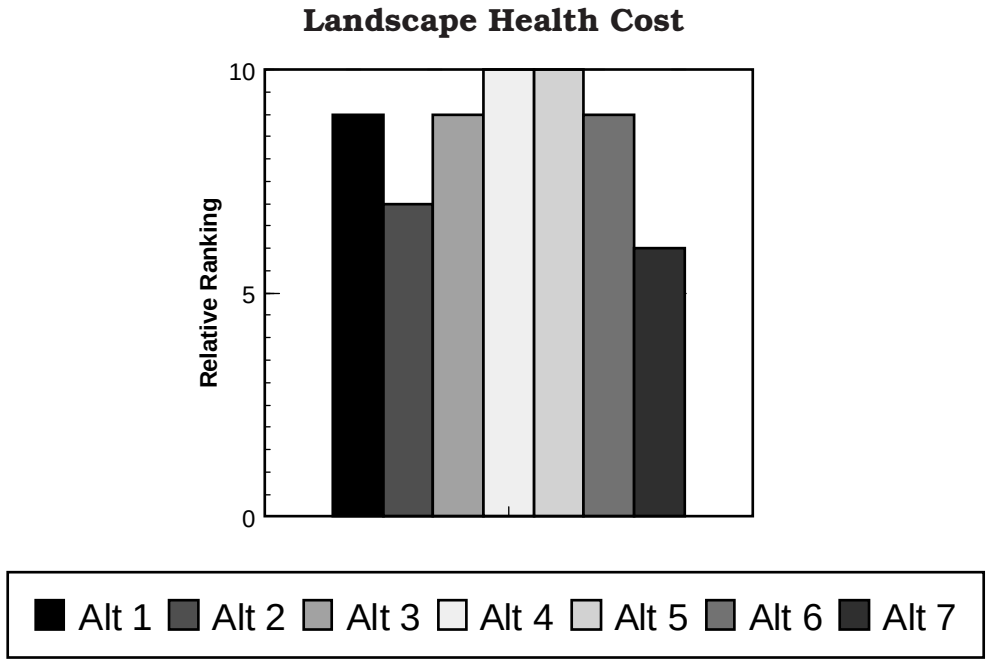
EC 4: To what extent does each alternative affect landscape health?



Short-term and Long-term Landscape Health: Relative ranking of alternatives based on consistency of landscape patterns with their appropriate biophysical succession/disturbance regimes, associated reduction in soil disturbance, exotic species invasion, conservation of landscape scale terrestrial and aquatic species habitats, fire risk reduction in the urban-rural/wildland interface, and associated flow of commodities and amenities.



Landscape Health Cost: Relative ranking of alternatives based on costs of land management activity and wildfire suppression.

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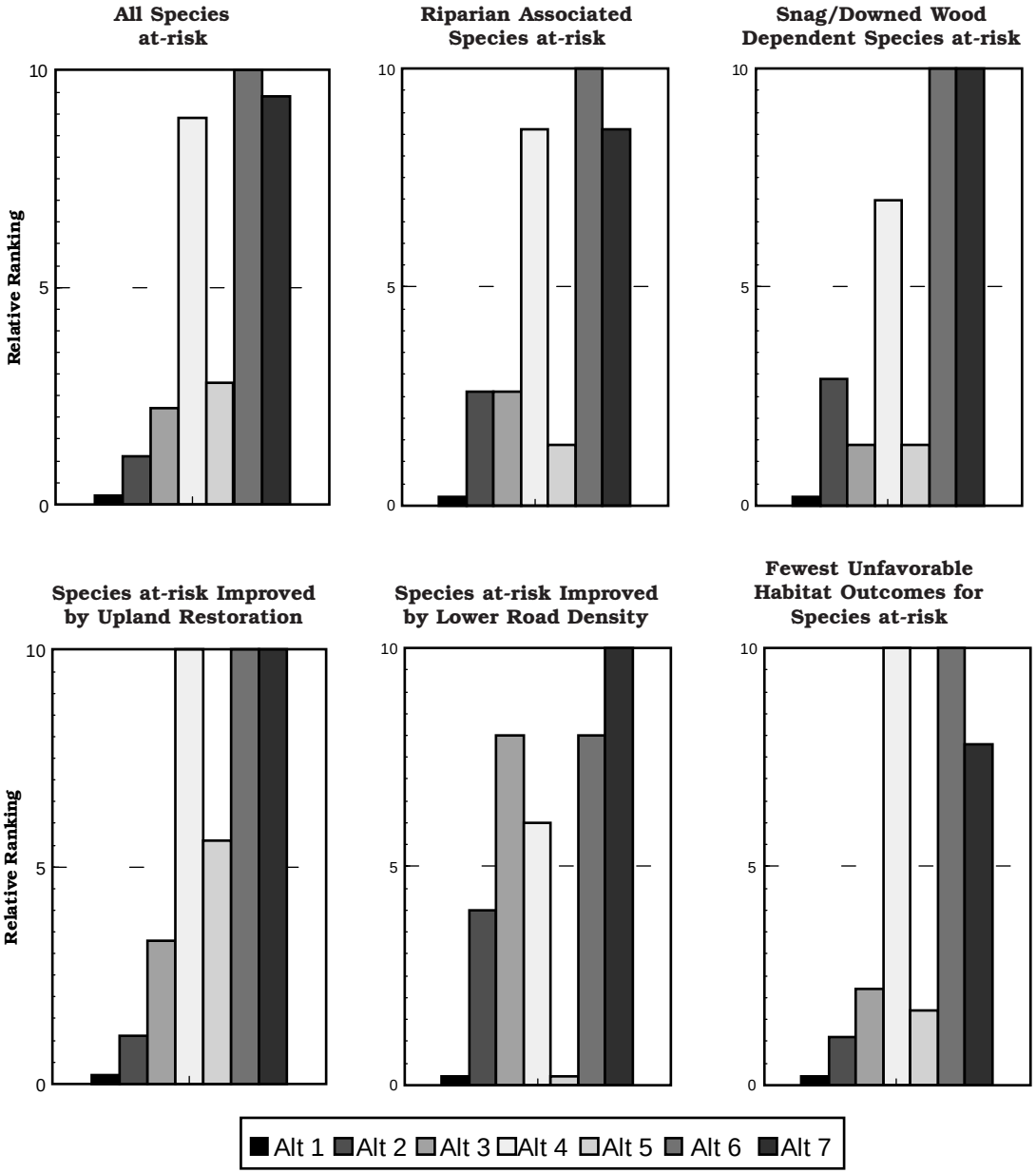
EC 5: How does each alternative contribute to long-term viable populations of terrestrial species?



All Species At-Risk: Long-term relative ranking of alternatives based on improved habitat outcomes of all species listed in Table 4-41.

Riparian Associated Species At-Risk: Long-term relative ranking of alternatives based on improved habitat outcomes for a selected group of species from Table 4-41 (and riparian restoration/protection in standards and activity tables.

Snag/Downed Wood Dependent Species At-Risk: Long-term relative ranking of alternatives based on improved habitat outcomes for a selected group of species from Table 4-41 and snag and downed wood standards.

Species At-Risk Improved by Upland Restoration: Long-term relative ranking of alternatives based on improved habitat outcomes for a selected group of species from Table 4-41 and improvements in connectivity and reduction in fragmentation.

Species At-Risk Improved by Lower Road Density: Long-term relative ranking of alternatives based on improved habitat outcomes for a selected group of species from Table 4-41 activity tables, and road density standards.

Fewest Unfavorable Habitat Outcomes for Species At-Risk: Long-term relative ranking of alternatives based on the number of species with unfavorable outcomes from Table 4-41 excluding species at-risk historically.

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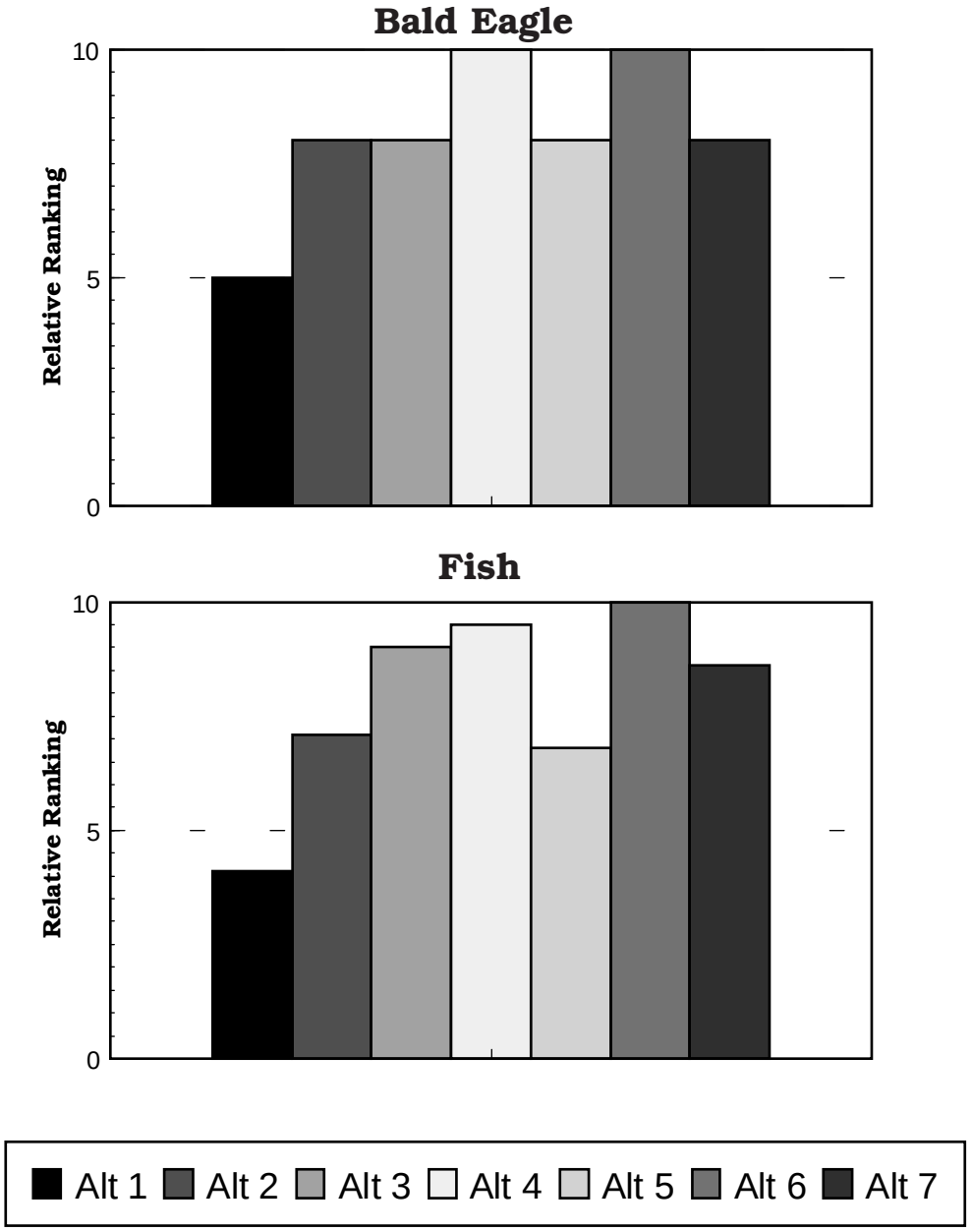
EC 6: How does each alternative contribute to long-term recovery and delisting of threatened and endangered species?



Bald Eagle: Likelihood of improvement of bald eagle habitat. (No other threatened or endangered terrestrial species exhibited a substantial difference between alternatives at this scale of analysis.) Long term relative ranking of alterantives based on habitat protection provided by the Endangered Species Act, riparian standards, and activity tables.

Fish: Long-term relative ranking of alternatives based on indicator variables from EC 3, and reflects improvement in habitat trends towards supporting viable populations of threatened and endangered fish species. Threatened Snake River ocean-type (fall) chinook are not included because the species is largely dependent on habitats outside of Forest Service- or BLM-administered lands.

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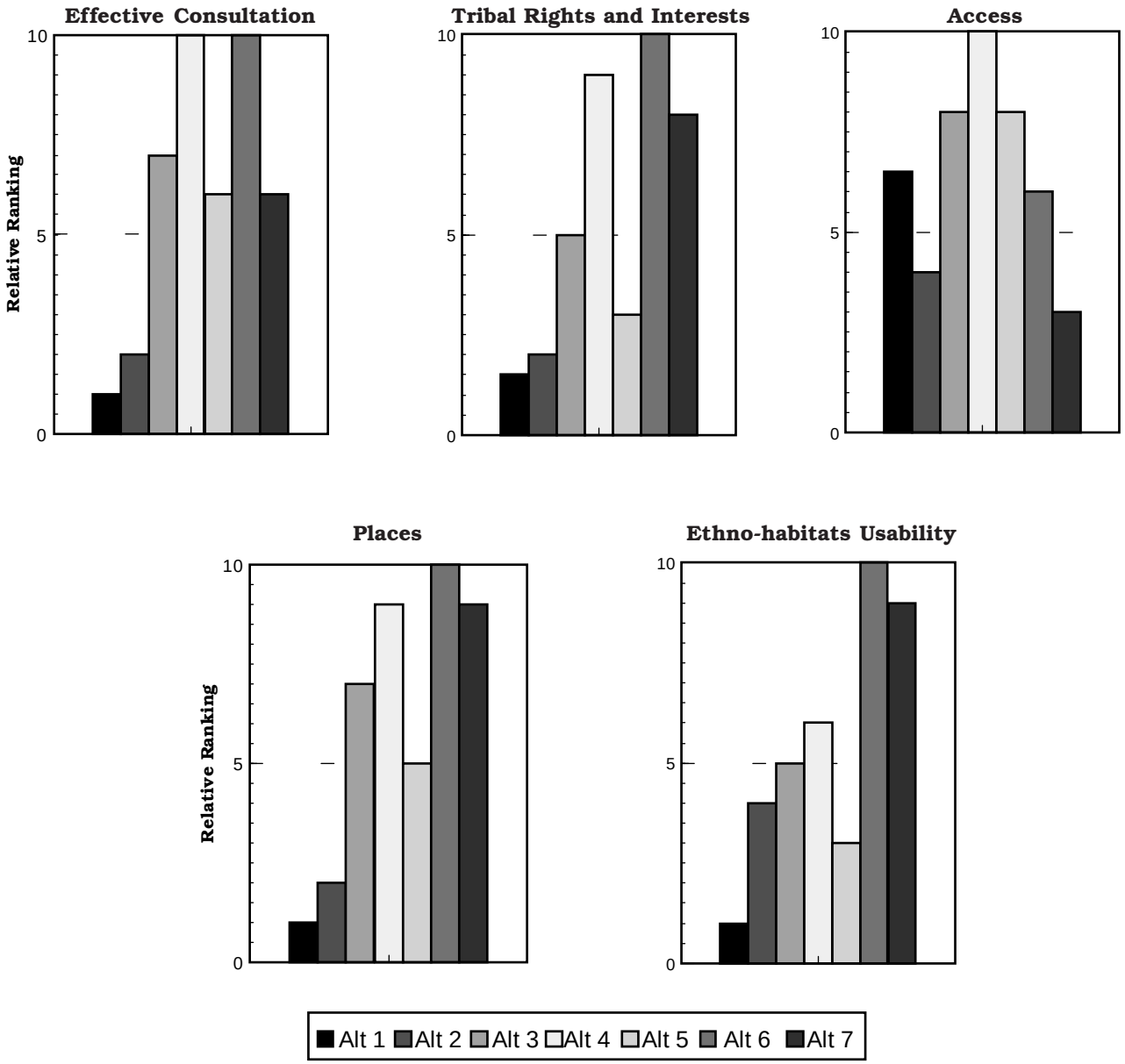
EC 7: To what extent does each alternative respond to federal trust responsibilities and tribal rights and interests?



Effective Consultation: Relative ranking of alternatives reflects interagency/tribal consultation and tribal involvement based on consistency, involvement prior to decisions, the theme of the alternative, and objectives and standards.

Tribal Rights and Interests: Relative ranking of alternatives based on the theme of the alternative, objectives and standards, the effectiveness of consultation, and related elements in Table 4-12.

Access: Relative ranking of alternatives based on the theme of the alternative, road management objectives and standards, and opportunity for tribes to take part in road management decisions.

Places: Relative ranking of alternatives reflects tribal significant places and their access/use based on the previous three indicator variables and Table 4-53.

Ethno-habitats Usability: Relative ranking of alternatives based on biophysical trends, tribal-interest species habitat trends, and the previous four indicator variables.

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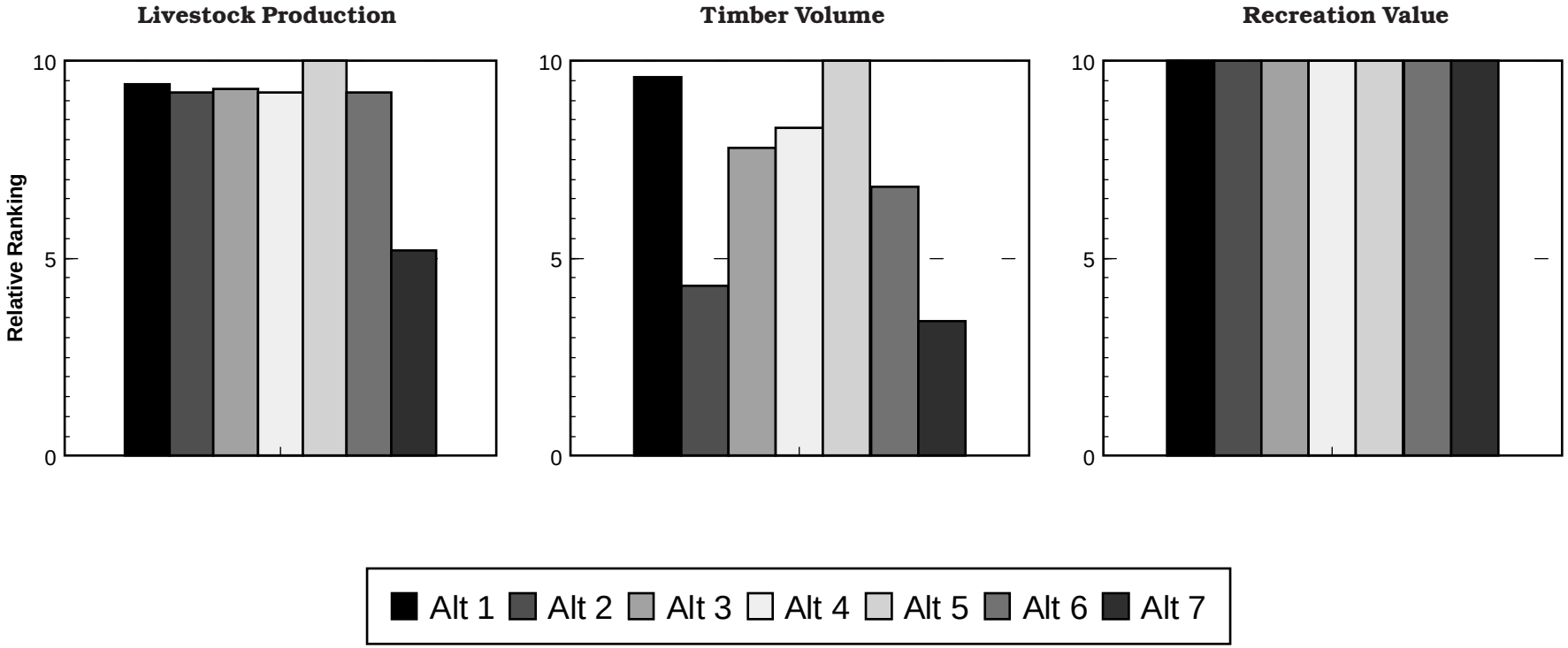
EC 8: What annual level of goods and services is provided by each alternative?



Livestock Production: Relative ranking of alternatives based on estimated percentage decrease from 1993 production level.

Timber Volume: Relative ranking of alternatives based on midpoint harvest acres from Tables 3-6 and 3-7 multiplied times volume/acre values from simulations.

Recreation Value: Relative ranking of alternatives based on the Economics Chapter of the Scientific Assessment.

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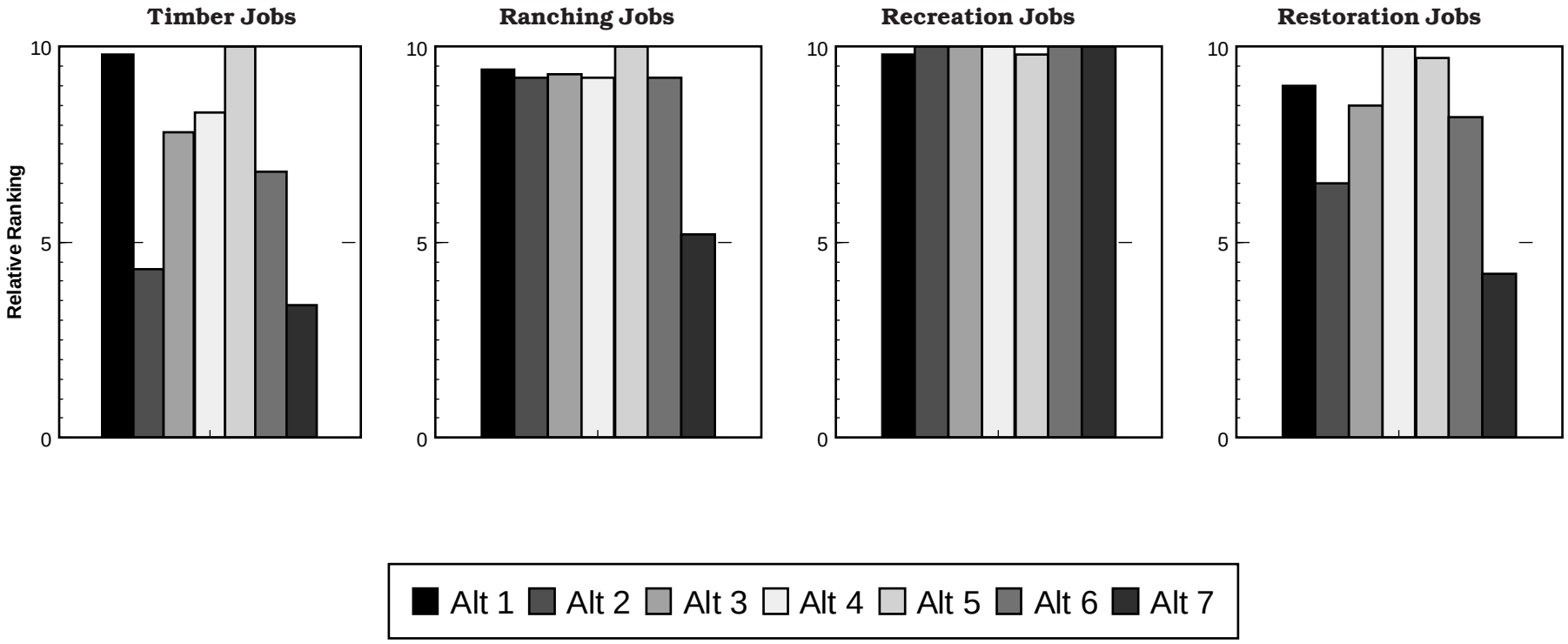
EC 9: What are the effects of each alternative on community vitality and resiliency?



Timber Jobs: Relative ranking of alternatives derived from total volume harvested (mmbf) using a multiplier of jobs per mmbf.

Ranching Jobs: Relative ranking of alternatives derived from total AUMs produced using a multiplier of jobs per AUM.

Recreation Jobs: Relative ranking of alternatives derived through an analysis of how a number of job sectors serve recreation.

Restoration Jobs: Relative ranking of alternatives derived by using a multiplier of jobs per million dollars spent based on activities in Tables 3-6 and 3-7.

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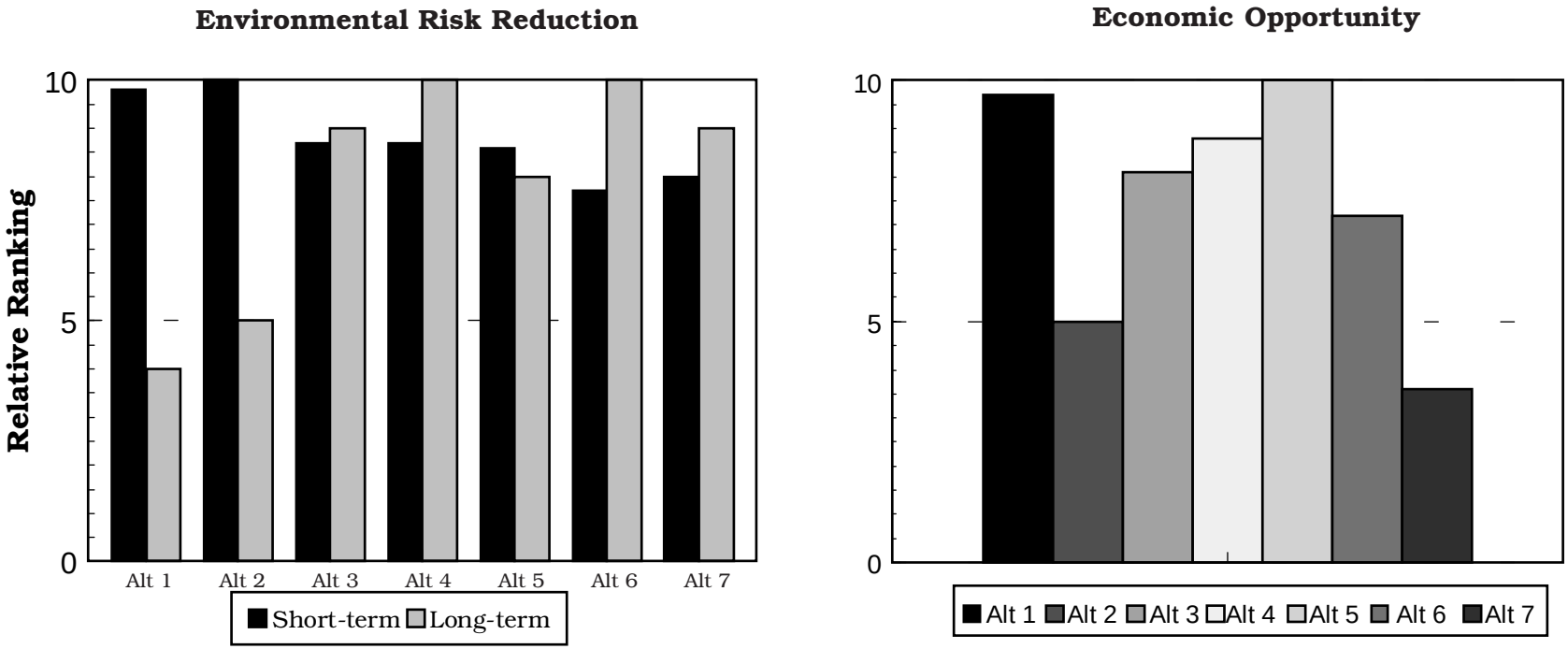
EC 10: What are the effects of each alternative on quality of life for project area residents?



Environmental Risk Reduction: Relative ranking of alternatives based on ecosystem analysis, range restoration, road closure, prescribed fire, timber harvest, and natural processes.

Economic Opportunity: Short-term relative ranking of alternative based on timber, ranching, and restoration jobs.

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The following evaluation criterion summaries are based on indicator variable rankings among alternatives in combination with information from Chapter 4.

Effects on Forest Health and Natural Disturbance Processes

Alternative 4 would be the most responsive overall in addressing forest health, followed closely by Alternative 6. Alternatives 3 and 5 would be more responsive than Alternative 7, followed by Alternatives 2 and 1.

Indicator variables that describe forest health are the following: (1) stand structure and composition, (2)ecosystem processes and function, and (3) resilience to stress. Over time, fire exclusion, harvest, livestock grazing, road building, invasion of exotic species, ownership patterns, and other management practices have altered the landscape. The reduction of large trees, increases in mid-seral and multi-story forests, and increases in shade-tolerant tree species are changes in stand structure that have made these forests more vulnerable to fire, insects, disease, and climatic stresses. Many forests are out of balance with ecosystem processes, physical environment, and their locations on the landscape.

Alternative 4 would show the most aggressive restoration of ecosystem structure, process, function, and patterns. Alternative 6 would be slightly less aggressive because it puts more emphasis on adaptive management; this alternative would therefore also result in fewer risks from management activities. Alternative 7's passive approaches would lead to natural disturbances with more unpredictable results. Alternative 3 would fix only the high priority problems in forest health. Under Alternative 5, levels of restoration would vary depending on the priority area and on whether the focus is on commodity or amenity production. Alternatives 1 and 2 would continue many of the current trends in forest management.

Alternatives 4 and 6 would lead to forest structures and compositions in the long term resembling more historical conditions with more large trees, more shade-tolerant trees (ponderosa pine and western larch), older stands, more single story structures, and lower tree densities. In Alternatives 1, 2, and 5 (in timber priority areas), young forests would tend be relatively uniform in size and tree spacing with smaller patch sizes and fewer large trees compared to the other alternatives. Alternatives 1 and 2 would have more transitions from old to mid-seral and from single story to multi-story forest. Alternatives 3 and 7 (outside reserves) would have a combination of uniform and more historic conditions. Alternative 7 (inside reserves) may produce large patch sizes in the short term due to wildfire.

In Alternatives 4 and 6, the ecosystem would move most rapidly toward conditions similar to those under which soils and vegetation evolved. These alternatives have the highest likelihood of restoring ecosystem processes and function. Overall soil disturbance would be lowest, coarse woody debris would be highest, and road restoration and rehabilitation would be most aggressive. Hydrologic, carbon, and nutrient cycling would benefit in the process. Alternatives 3 and 5 have a somewhat lower likelihood of sustaining soil productivity and restoring and maintaining ecosystem processes. Alternative 7 is not rated as high because of the effects of severe wildfire and lack of road restoration in reserve areas. Alternatives 1 and 2 rank lowest for this variable.

Alternatives 3 through 6 are all projected to have fewer acres burned by wildfire and fewer acres of crown fire than Alternatives 1, 2, and 7 because they emphasize restoring forest structure to a state less susceptible to high intensity wildfire in the moist and dry forest. In the cold forest, management activities would reduce the extent of high intensity wildfires by patterning the landscape with varied age classes and forest structures. Alternatives 4 and 6 would produce disturbance patterns most in sync with the ecosystem's biological and physical environment. These alternatives would be followed by Alternatives 3 and 5. Alternatives 1 and 2 would continue to maintain landscapes of stand structures susceptible to high intensity wildfire. Alternative 7 (in reserves) is predicted to have the highest amounts of wildfire due to lack of restoration or fire suppression efforts in reserves.

Alternative 4 is projected to produce forested conditions most resistant to insect and disease epidemics such as lower densities and more shade-intolerant tree species. Alternatives 3 and 6 would rank next, followed by Alternatives 5, 7, and 1 and 2.

Effects on Rangeland Health and Natural Disturbance Processes

Alternatives were rated based on their relative ability to improve rangeland health and resemble or restore natural disturbance processes as compared with the other alternatives. Alternatives 4 and 7 would be more responsive in improving rangeland health and natural disturbances than Alternatives 3 and 6; Alternative 5 would be less responsive. These would all be more responsive than Alternatives 1 and 2. This comparison of alternatives takes into consideration the overall ability of alternatives to reverse undesirable conditions and trends described in the beginning of Chapter 2 called Summary of Conditions and Trends. The ranking of alternatives may change as individual rangeland conditions and outcomes are examined. For example, Alternatives 3 and 4 would be most responsive in preventing the spread of noxious weeds, whereas Alternative 7 would have the highest ability to prevent negative effects to rangeland health. Natural disturbance processes or the resemblance thereof are predicted to improve overall, under Alternatives 3 through 7 as ranked above.

Alternatives 4, 6, and 7 would have the highest likelihood of restoring, conserving, and maintaining soil productivity and function, sustainably through time. This is because overall soil disturbance would be lowest, and vegetation would aggressively move towards conditions most similar to those under which soils evolved while also providing the greatest reduction in spread of exotics. Alternative 7 could be less effective in meeting goals for sustainable soil productivity and function as Alternative 4 and 6 because road restoration may not be directed at restoring soil and hydrologic function, and reducing the spread of exotics would have a less active approach. Alternatives 3 and 5 are somewhat less likely to meet the goals of sustainable soil productivity, but have a higher likelihood than Alternatives 1 and 2.

Natural fire regimes, or the mimicking of these regimes in the dry grass and dry shrub potential vegetation groups, might not be desired in some areas in some alternatives because of the presence or conversion of native vegetation communities to altered sagebrush steppe. Fire in these communities could promote altered sagebrush steppe if exotic annual grasses, such as cheatgrass and medusahead, are already present in the community or are in the vicinity. Fire, in this instance, would be of limited use in meeting the desired range of future conditions, described earlier in this chapter.

All alternatives are predicted to have less total wildfire acres burned than the historic levels, since fire suppression did not occur in the historical period. Alternatives 1, 2, and 7 are predicted to have the highest amounts of wildfire. In Alternatives 1 and 2, this would appear to be a result of lower priorities for restoration of altered sagebrush steppe in the dry shrub (the predicted levels of wildfire exceed the historical levels in this potential vegetation group). In Alternative 7, fire suppression actions within the large reserves would be limited to fires that threaten the reserve boundaries. But the amount of wildfire acres predicted is less than Alternatives 1 and 2 for total rangeland vegetation as a result of suppression and restoration actions outside reserve boundaries. The dry shrub in Alternative 7 would be similar to historical levels, likely as a result of no grazing or management action to reduce exotic annual grasses within reserves.

Alternatives 3 through 6 all are predicted to have fewer acres burned by wildfire then Alternatives 1, 2, and 7. One primary reason for this difference is Alternatives 3 through 6 emphasize activities that would reduce the extent and break up the continuity of altered sagebrush steppe. The result would be an enhanced ability to suppress wildfire in dry shrub areas. All these alternatives, except 5, provide for more fire (wildfire plus prescribed fire) in the cool shrub areas than historical levels of wildfire.

All alternatives would show less wildfire in the dry grass areas than historically, likely as a result of aggressive suppression in these areas. Even Alternative 7, the alternative with the highest amount of wildfire, is predicted to have approximately half of amount of wildfire as historically. This would likely be the result of effective suppression outside reserve boundaries.

Effects on Aquatic and Riparian Health

Aquatic Health

The current composition, distribution, and status of most fish species within the planning area would improve under Alternatives 3, 4, 6, and 7, with the greatest potential for improvement occurring with Alternatives 4, 6, and 7. Alternative 4 could pose a higher risk in the short term than Alternatives 6 and 7 due to increased activities, but in the long term, 4 and 6 would have equally high potential for improvement, while that for Alternative 7 would decline. All four would provide better outcomes than Alternative 2. Most native fishes' distribution and status would continue to decline under Alternative 1 and Alternative 5 (outside aquatic, wildlife, and recreation priority areas).

Alternatives 6 and 7 would result in the greatest improved distribution and status of resident key salmonids (bull trout, westslope and Yellowstone cutthroat, and redband trout), in the short term while Alternatives 4 and 6 are equally high in the long term while improvement would decline with Alternative 7. Successful ecological outcomes of Alternatives 4 and 6 depend upon prioritization of restoration and other management actions and maximizing adaptive management to minimize risk.

Alternatives 3, 4, 6 and 7 would conserve most core population areas for steelhead and stream-type chinook salmon. Improvements in steelhead and stream-type chinook stocks under Alternative 4 are less certain in the short term due to the higher rate of restoration and other management, but the requirements of ecosystem analysis and setting restoration priorities should reduce this uncertainty. However, none of the alternatives address the need for a comprehensive approach to restore habitat and alleviate mortality for steelhead and stream-type chinook stocks outside BLM- and Forest Service-administered lands. Alternatives 1, 2, and 5 would result in the continued decline in the overall status and distribution of steelhead and stream-type chinook salmon stocks.

None of the alternatives are expected to provide for the full habitat needs of ocean-type chinook salmon, since none of the alternatives would address the need for a comprehensive approach to restore habitat and alleviate mortality outside BLM- or Forest Service-administered lands. Alternatives 6 and 7 would provide the most conservative short-term approaches and might result in some benefits to ocean-type chinook salmon if management actions improve water quality and quantity. In the long term Alternatives 4 and 6 would offer the greatest protection, as long-term risks of large-scale disturbances increase for Alternative 7.

Implications. In Chapter 2, a sidebar discusses the effects of hydropower, hatcheries, harvest, and habitat on interior Columbia River Basin anadromous fishes. This sidebar is summarized below to address cumulative effects on anadromous fishes.

> Downstream stresses associated with the hydropower system are dominant causes of declining anadromous fish runs in the Snake River, notwithstanding land use activities in the watersheds. Mid-Columbia anadromous stocks (such as John Day and Deschutes Rivers) are influended less by hydropower due to a lower number of dams below spawning and rearing areas. Habitat degradation is another important factor in the decline of salmon and steelhead.
>
> Maintenance of high-quality habitats is vital to the persistence of populations but the magnitude of effects varies from sub-basin to sub-basin. High quality habitat alone is no guarantee of increased persistence without a comprehensive approach that addresses all mortality factors acting upon individual populations. Additional high quality habitat alone could increase abundance of individual fish but it would not likely reverse current negative population trends in the short-term. Assuming mainstem conditions are resolved in the longer term, and if the objective is to support the full expression of life histories and species, then it will be necessary to conserve and restore broader habitat networks than currently exist.
>
> Salmon population numbers in much of the interior Columbia Basin are far below what current habitat conditions could likely support under a scenario of increased downriver survival. Some areas (such as central Idaho and northern Cascades) potentially could support hundred-fold increases or better

in adult numbers. However, this is not the case everywhere. Existing habitat conditions in some areas, such as the John Day, Deschutes and Grande Ronde Rivers, and Panther Creek, would likely not be sufficient to support increases in returning adults resulting from improvement in downstream survival. In such places, there is a need to increase egg-to-smolt survival where it is currently depressed by habitat degradation.

Riparian Health

On a relative scale, Alternatives 6 and 7 are expected to provide the highest short-term benefits to riparian and aquatic environments because of riparian area protection requirements and reduced rates of management activities that could negatively impact these resource; however, over the long term Alternatives 4 and 6 would offer equally high benefits. The lack of active watershed, rangeland, and forest restoration in Alternative 7 may, pose risks to riparian and aquatic environments in the long term. Alternative 4 would have similar benefits as Alternatives 6 and 7 but has a greater uncertainty of ecological outcomes in the short term due to higher amounts and rates of activities. Ecosystem analysis and prioritization of restoration required in Alternative 4 reduces the uncertainty associated with this alternative. Alternative 2 and 3 would benefit riparian and aquatic environments due to riparian area protection requirements but to lesser degrees than Alternatives 4, 6, and 7. Alternative 3 would provide slightly greater benefits than Alternative 2 due to an ecosystem management and watershed restoration emphasis. Alternatives 1 and 5 would provide the least overall protection to riparian and aquatic environments. Alternative 1 is not expected to lead to recovery of aquatic and riparian environments because of a lack of a comprehensive riparian protection and recovery strategy. Although aquatic, wildlife, and recreation priority areas in Alternative 5 have the same level of protection as Alternatives 4 and 6, the lack of riparian protection outside these priority areas is expected to result in broad scale fragmentation of aquatic and riparian environments.

Effects on Landscape Health

The alternatives were rated based on "best fit" considerations: consistency of landscape patterns with their appropriate biophysical succession/disturbance regimes, associated reduction in soil disturbance and noxious weed invasion, conservation of landscape-scale terrestrial and riparian habitats, fire risk reduction in the urban-rural/wildland interface, and an associated flow of human commodities and amenities. When compared to the other alternatives, Alternative 4 would provide a much higher transition to healthy landscapes in the first decade. Alternative 3 would have a higher transition rate than Alternatives 5, 6, or 7, which would have higher rates than Alternatives 1 and 2. In the long term (50 to 100 years), Alternative 6 would have almost as high a transition rate as Alternative 4; Alternative 3 would have a somewhat more rapid transition than Alternatives 5 and 7, followed by Alternatives 2 and 1 in that order. Under projected cumulative effects, transition to landscape health would be somewhat diluted, but Alternatives 3 through 7 would promote landscape health across the interior Columbia River Basin. Alternatives 4 and 6 would rank highest, with Alternatives 3, 5, and 7 at a secondary level, and Alternatives 2 and 1 at respectively lower levels.

When considering the comparative costs of management, restoration, and wildfire suppression, Alternatives 4, 3, and 7 would provide the highest return to landscape health for the cost within the first decade, followed by Alternatives 6 and 5. Alternatives 1 and 2 would have the lowest first-decade return in improvement of landscape health for the cost. In the long term, Alternatives 4, 6, 7, and 3 would be most efficient, while Alternative 5 would have lower return in improvement of landscape health for the cost. However, Alternatives 5 and 7 would transition only about half the landscapes toward a healthy condition, while Alternative 3 would transition almost two thirds, and Alternatives 4 and 6 would transition most landscapes toward a healthy condition. Alternatives 1 and 2 would have the poorest return for the cost and would transition very low amounts toward a healthy condition in the long term, but Alternative 2 would be somewhat higher than Alternative 1. In projected cumulative effects, Alternatives 4 and 6 would have the highest return in improved Basin-wide landscape health per unit of cost; Alternatives 3 and 7 would have somewhat lower returns; Alternatives 5 and 2 follow respectively; and Alternative 1 would have the poorest return per unit of cost.

Effects on Long-Term Viable Populations of Terrestrial Species

Historically, 29 plant and animal (vertebrate) species were judged to have outcomes of 4 or 5 (see Terrestrial Species Viability in Chapter 4 for explanation of outcomes). Currently, 62 species also have viability outcomes of 4 or 5. There would be little change in overall habitat outcomes for the vast majority of species analyzed for all alternatives. Implementation of Alternatives 4, 6, and 7 would result in 41, 41, and 45 species respectively; Alternatives 3, 5, 2, and 1 would result in 55, 56, 57, and 59 species with unfavorable outcomes.

Alternative 1 would result in the highest number of species with some risk of extirpation (see Glossary), on average, than the other alternatives. Alternative 5 would have the next highest number of species with some risk of extirpation. Alternatives 2 and 3 would result in more species with increasing risk of extirpation than those with decreased risk. Alternatives 4, 6, and 7 would result in more species with improved likelihood of persistence than species with increased risk of extirpation. None of the alternatives approach historic conditions for habitats or viable populations for the 119 vertebrate and 22 plant species analyzed in the Eastside planning area. Many species, including listed species, are influenced by factors beyond the ability of BLM or Forest Service managers to affect, such as species migration and off-site habitat conversion.

Effects on Long-term Recovery and Delisting and Threatened or Endangered Species

There are 37 federally listed (threatened or endangered) or candidate species in the project area which include plants, vertebrates, and invertebrates. The Science Team considered 7 of these 37 to warrant further broad-scale analysis; others had limited ranges and are more appropriately addressed locally through forest or resource area plans or project plans. Historically, four of these species, woodland caribou, howellia aquatilis, MacFarlane's four-o'clock, and Malheur wire-lettuce were disjunct and isolated. This suggests that these species' habitats are of concern within the project area.

The other three threatened or endangered species that were evaluated have varying outcomes. Bald eagle habitat would improve in all alternatives, with greatest improvement seen in Alternatives 4 and 6. Gray wolves will have a high likelihood of viability on BLM- and Forest Service-administered lands, with the best outcome in Alternative 7. Grizzly bear habitat is greatly reduced from historical levels, and habitat outcomes are poor in all alternatives, with Alternative 7 showing a slight improvment because of large reserves. Both wolves and grizzly bears have a high likelihood of extirpation when cumulative effects are considered.

Threatened and endangered species were evaluated for how the species would be affected by the alternatives, but were not evaluated regarding delisting and recovery. See the outcomes discussed in the Effects on Long-Term Terrestrial Species Viability evaluation criterion, which also apply to this criterion.

The largest improvement in condition for narrow endemic threatened and endangered fishes is associated with Alternative 6. Alternative 4 is similar to Alternative 6, although it carries a slightly higher risk in the short term. Alternative 7 would conserve core populations, but depressed populations in currently degraded habitats outside of reserves may continue to decline over the long term. Similarly, Alternative 3 would conserve most core populations, but may not prevent declines in areas in need of aggressive restoration in the long term. Listed anadromous fish species, except Snake River ocean-type chinook, show the same results, but persistence of these species is dependent upon a comprehensive approach to address and alleviate sources of mortality occurring outside of Forest Service- or BLM- administered lands. None of the alternatives are expected to provide for the habitat needs of listed Snake River ocean-type chinook salmon because they inhabit lower elevation, non-federally administered mainstem river habitats and are less affected by BLM or Forest Service management. Alternatives 6 and 7 have the most conservative approach and could result in some benefit to Snake River ocean-type chinook salmon if management actions improved water quality and quantity. None of the alternatives address the need for a comprehensive approach to restore habitat and alleviate mortality outside BLM- or Forest Service-administered lands to ensure persistence of ocean-type chinook salmon stocks because it is beyond the scope of this EIS.

Effects on Federal Trust Responsibilities and Tribal Rights and Interests

Every alternative would have some amount of activity on agency lands, which could disturb ecosystems, habitats (including ethno-habitats), resources, places, and heritage resources where American Indians/tribes have interests and/or reserved rights. In the long term, Alternatives 1, 2, and 5 would have a low ability and Alternatives 3 and 7 a moderate ability to achieve healthy landscape systems through management activities. Alternatives 4 and 6 would have a high rate of transition toward healthy landscapes in resembling natural disturbance patterns. Given tribes' interest in management actions that could stop and/or reverse trends that are moving away from the historic range of conditions and facilitate moving toward the desired range of future conditions, Alternatives 4 and 6 would be favorable to their interests.

The alternatives would have varying effects on different tribes and Indian communities. Generally, Alternatives 1 and 2 would be the least responsive in providing for meaningful consultation/access to decision-making, moving towards the desired range of future conditions, protection of culturally significant fish and wildlife species and their habitats with viability concerns, recognition or management of places, providing for access rights, and addressing interests or rights to healthy, sustainable or useable ethno-habitats. Alternative 5 would provide a relatively moderate response, but would allow for more meaningful consultation and would be slightly more responsive to Indian interests/rights than Alternatives 1 and 2. Relative to Alternatives 1, 2, and 5, Alternatives 3 and 7 would respond better, especially with regards to access to decision-making, aquatic protection and restoration, and providing more favorable trends in habitat and landscape dynamics. Overall, Alternatives 4 and 6 are expected to be most responsive to federal trust responsibility and tribal rights and interests. Although they would not provide all of the most protective measures, they would tend to exhibit the most positive trends toward ecosystem functions and processes, habitat, watershed restoration, and access to effective consultation.

No alternative is fully responsive to all interests of tribes in the project area. All alternatives reflect a recognition for baseline federal legal responsibilities. Several alternatives support enhancement of habitats for species with treaty significance or of interest to tribes.

Effects on the Level of Annual Goods and Services

While 'goods and services' includes a large array of benefits provided from Forest Service- and BLM-administered lands, both priced and unpriced, the effects on three major outputs are evaluated for the alternatives. These include: livestock animal unit months (AUMs), representing the number of domestic livestock fed on Forest Service- and BLM-administered rangelands; the supply of recreation provided by each of three recreation opportunity spectrum (ROS) classes; and wood volume produced from timber harvest and vegetation management actions, measured in billion board feet (bbf). Alternative 5 produces the most AUMs, but only slightly more than Alternatives 1, 2, 3, 4 and 6. Alternative 7 produces about half the AUMs of the other alternatives. All the alternatives supply about the same amount of recreation value. There are some changes in the types of recreation opportunities provided. Alternative 7 would cause a shift from developed and road-based recreation to semi-primitive recreation in the reserves. Alternative 3 through 7 potentially provide less water-based and dispersed roaded recreation than Alternatives 1 and 2. Alternatives 1 and 5 harvest the most wood volume. Compared to Alternatives 1 and 5, about 20 percent less wood is harvested under Alternatives 3 and 4, about 30 percent less under Alternative 6, about 60 percent less under Alternative 2, and 65 percent less under Alternative 7.

The alternatives produce many other goods and services for people that cannot be reliably measured, specifically those benefits produced through maintaining or restoring ecosystem conditions, processes, and disturbance regimes. The management strategies for Alternatives 3, 4 and 6 emphasize restoration with an intent to supply ecosystem benefits. Alternative 4 does the most restoration. Alternative 5, though emphasizing a mix of production and restoration, does about as much restoration as Alternatives 3 and 6. Alternatives 1, 2 and 7 do less restoration than Alternatives 3, 4, 5, and 6.

Alternatives 1, 2 and 7 do roughly the same amount of restoration, though each emphasizes different types. Alternative 7 includes a substantial amount of passive restoration (through the reserves), an emphasis not shared by the other alternatives. Benefits expected from restoration activities include improved environmental goods and services and reduced environmental risk. Both kinds of benefits are important quality-of-life attributes for people residing inside and outside the project area.

Effects on Community Vitality and Resiliency

Community vitality and resiliency are influenced by many factors outside the scope of Forest Service and BLM land use decisions. The factor most directly influenced by the agencies is the number, type and location of jobs generated. Job effects are most influenced by the amount and type of management activity done, outputs produced, and services provided from Forest Service and BLM-administered lands. Most important are jobs generated from grazing livestock, supplying recreation, harvesting and processing timber, and jobs related to conducting restoration activties. Alternative 5 generates the most ranching jobs, though ranching jobs under Alternatives 1, 2, 3, 4, and 6 drop by less than 10 percent compared to Alternative 5. Ranching jobs under Alternative 7 drop by about 50 percent compared to Alternative 5. All seven alternatives provide about the same number of recreation jobs. Alternatives 1 and 5 generate the most jobs from harvesting and processing timber. Compared to Alternatives 1 and 5, about 20 percent fewer timber jobs are generated under Alternatives 3 and 4, about 30 percent fewer under Alternative 6, about 60 percent fewer timber jobs are generated under Alternative 2, and about 65 percent fewer under Alternative 7. Alternatives 4 and 5 generate the most jobs through management activities. Alternatives 1, 3 and 6 generate about 10 to 15 percent fewer restoration jobs than Alternatives 4 and 5. Alternatives 2 and 7 generate about 35 percent and 60 percent fewer restoration jobs, respectively, than Alternatives 4 and 5.

The locations where jobs will be generated cannot be reliably estimated. Alternatives 3 through 7 share an objective to support the economic needs of areas determined to be economically and socially vulnerable to changing Forest Service and BLM management. Concentrating jobs from restoration activities and resource production in these areas could accomplish this objective, though other strategies for economic assistance may also be employed. Alternatives 3, 4, and 6 share an emphasis to reduce the risk of fire at the wildland-urban interface, presumably concentrating a larger proportion of restoration jobs in these areas. Alternative 5 specifies that timber, livestock grazing, and recreation will be emphasized in certain areas. Presumably, jobs would follow these prioritized uses. How management priorities distribute activities, outputs, and services from Forest Service and BLM-administered lands to different areas can be important to the quality-of-life of people in those areas because of the economic opportunities they provide.

Effects on Quality of Life for Project Area Residents

Like economic vitality and resiliency, the quality of life for project area residents is influenced by many factors outside the scope of Forest Service and BLM land use decisions. Furthermore, individuals will prioritize the factors that define their quality of life quite differently. For some, their economic well-being may be paramount. In some areas, that economic well-being may be closely associated with jobs generated from the use of Forest Service and BLM-administered lands. Quality-of-life may also depend on the ability of county governments to provide needed social and economic services. Some counties depend on revenues from agency lands to finance these services. This situation is often found in geographically isolated and sparsely populated parts of the project area. For others, whose economic well-being is not directly tied to agency lands, lifestyle considerations and environmental concerns may be paramount is appraising their quality of life. For these people, the ecological benefits and environmental risks associated with Forest Service and BLM-administered lands are most important. This situation is often found in more densely populated and economically diverse areas, and rural communities experiencing rapid population growth. Translating these two situations into 'economic opportunity' and 'environmental risk' factors provides a means to evaluate the effects of the Draft EIS alternatives on the quality of life of project area residents.

Alternatives 1 and 5 provide the most jobs and presumably the most economic opportunity. Alternative 3 and 4 provide about 20 and 10 percent fewer jobs, respectively, than Alternatives 1 and 5. Alternatives 2 and 6 provide about 50 and 30 percent fewer jobs than Alternatives 1 and 5. Alternative 7 provides about 65 percent fewer jobs than Alternatives 1 and 5. The proportion of these jobs that will benefit the isolated and sparsely populated rural areas, where they are most needed, is unknown. It may be that the restoration themes of Alternatives 3, 4, 6 and 7 result in a moderately smaller proportion of jobs going to rural areas (due to more emphasis on fire risk reduction at the more populated wildland-urban interface areas) and that timber priority areas in Alternative 5 might favor rural areas.

A composite measure for environmental risk that accounts for the benefits and risks associated with ecosystem analysis, restoration activities, timber harvest, and natural processes is used to evaluate this aspect of quality of life for the seven alternatives; for both the long and short term. In the short term, Alternative 6 appears to involve the most environmental risk, though Alternatives 3, 4, 5, and 7 involve almost as much. The difference in short-term risk among Alternatives 3, 4, 5, 6 and 7 is probably not significant for this composite measure. Short-term risk for Alternatives 1 and 2 is about 20 percent less than for Alternative 6. In the long term, Alternative 1 appears to involve the greatest environmental risk, followed closely by Alternative 2. Alternatives 3 through 7 involve about 50 to 60 percent less risk than Alternative 1. This composite measure of environmental risk leads to the conclusion that: short-term environmental risk is relatively high (and similar) for all alternatives; long-term risk is considerably lower than the short-term risk for Alternatives 3 through 7; and long-term risk is slightly higher than short term risk for Alternatives 1 and 2.

A User's Guide to the "Action" Alternatives

Alternatives 3 through 7 were designed through a multi-step process. Generally, each alternative was designed with enough detail to provide for meaningful comprehension, comparison, and analysis of the alternatives. This user's guide includes questions and answers commonly raised about the alternatives.

Rangelands

✓ **I graze livestock on BLM-administered land south of Burns, Oregon. How can I interpret Alternative 4 for this area?**

To interpret Alternative 4 for this location, follow the steps described below:

STEP 1 Burns is located in central Oregon. See Map 3-10, Alternative 4 ~ Management Emphasis for Range Clusters, to determine which range cluster encompasses BLM-administered land south of Burns. (BLM-administered land south of Burns lies mostly within Range Cluster 6. Maps 1-1 and 1-2 show land administered by the BLM and by the Forest Service).

STEP 2 See the Description of Alternatives section in the beginning of this chapter to determine the overall focus of Alternative 4. (Alternative 4 is designed to aggressively restore ecosystem health through active management, the results of which resemble endemic disturbance processes including insects, disease, and fire. The alternative focuses on short-term vegetation management to improve the likelihood of moving towards or maintaining ecosystem processes that function properly in the long term.)

STEP 3 Look at the following range cluster excerpt of Table 3-10, Comparison of Alternatives by Management Emphasis. Table 3-10 in its entirety follows this User's Guide.

A **Restore** management emphasis has been assigned to Range Cluster 6 under Alternative 4. Definitions for a Produce [P], Restore [R], and Conserve [C] management emphasis can be found on page 4 of this Chapter.

	Alternatives						
Range Clusters	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	P	PC	RP	R	RP	R	CR
2	C	C	C	CR	C	CR	C
3	PC	C	CR	R	CR	CR	C
4	P	PC	RP	R	PC	R	CR
5	P	PC	R	R	PC	CR	C
6	P	PC	RP	**R**	RP	R	CR

STEP 4 If you want to read more about the process of assigning Management Emphases, please turn to the Rule Sets section of Appendix 3-3.

As shown in the following table, a Restore management emphasis for range clusters means moderate or high levels of livestock management with three or more restoration activities (from Table 3-12) at moderate or higher levels.

		Rule Set
Management Emphasis	Livestock Mgmt Level	Restoration Activities
C	High	1 or less restoration activity > or = Mod
C-R	High	2 restoration activities > or = Mod
R	**Mod or High**	**3 or more restoration activities > or = Mod**
R-P	Low or Mod	2 restoration activities > or = Mod
P	Low	1 or less restoration activity > or = Mod
P-C	Mod	1 or less restoration activity > or = Mod

STEP 5 See the Range Cluster 6 excerpt from Table 3-11, below. Table 3-11 in its entirety follows this User's Guide. As shown in this excerpt, a Restore management emphasis for Range Cluster 6 under Alternative 4 calls for high levels of livestock management and rangeland improvement, moderate levels of decreased road densities and riparian restoration, and low levels of prescribed burning. (Prescribed fire planning is not regarded as a restoration activity.)

	Alternatives						
Management Activity	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Range Cluster 6							
Livestock Management	L	M	M	**H**	M	H	H
Improve Rangeland	L	L	M	**H**	M	M	L
Decrease Road Density	L	L	L	**M**	L	M	M
Riparian Restoration	L	L	M	**M**	M	M	M
Prescribed Burning	L	L	L	**L**	L	L	L
Prescribed Fire Plan	L	L	L	**L**	L	L	M

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STEP 6 See the rangelands excerpt from Table 3-12 below to interpret what the high, moderate, and low activity levels mean. Table 3-12 in its entirety follow this User's Guide. This excerpt shows the activity levels assumed to be applied within the first decade in Range Cluster 6 under Alternative 4. (Divide this number by 10 to see the assumed *annual* activity levels.)

Rangelands	Low	Moderate	High
Livestock Management (Percent of all rangeland with improved management)	0-6	6-12	**12-20**
Improve Rangelands (Percent of all rangeland treated per decade)	0-4	4-8	**8-11**
Decrease Road Density (Percent of native surface road miles reduced per decade)	0-25	**25-50**	50+
Riparian Restoration (Percent of all riparian areas treated per decade)	0-25	**25-50**	50-75
Prescribed Burning (Percent of all rangeland treated per decade)	**0-3**	3-6	6-9
Prescribed Fire Plans (Percent of all rangeland with implemented plans per decade)	**0-20**	20-40	40+

Livestock Management. A summation of livestock management variables that affect rangeland health, including: grazing systems, changing riparian grazing management, season of use (length and timing), number of head; change of class, distribution, grazing deferment, and herding.

Improve Rangelands. Capital investments: fencing, stockwater improvements, seedings, control of invasion or spread of exotics, and non-fire shrub and juniper control.

Decrease Road Density. Permanent closure of primarily native surface roads.

Riparian Restoration. Includes improving road condition (drainage and/or surface), riparian plantings, in-channel restoration, and riparian exclosures.

Prescribed Burning. Management-ignited fire.

Prescribed Fire Plan. Allows natural-ignition fires to burn when in prescription and/or identifies areas that require prescribed burning.

What this means for the BLM-administered land in Range Cluster 6 in the first decade is:

- Twelve to twenty percent of rangeland would have improved management [high level].
- Eight to eleven percent of rangeland would be treated [high level],
- Twenty-five to fifty percent of native surface road miles would be permanently closed [moderate level].
- Twenty-five to fifty percent of riparian areas would be treated [moderate level].
- Zero to three percent of rangeland would be prescribed burned through management ignition [low level].
- On zero to twenty percent of rangeland, naturally-ignited fires would be allowed to burn when in prescription, and/or areas that need prescribed fire would be identified [low level].

STEP 7 See Table 3-13 to determine the objectives that are relevant to the various activity groups. Table 3-13, Summary of Activity Levels Matched with Relevant Objectives, in its entirety, follows this User's Guide.

As shown in this excerpt from Table 3-13, several objectives are relevant to the activities undertaken on Forest Service- or BLM-administered lands in Range Cluster 6 under Alternative 4, including Objective TS-O15.

		Range Clusters					
		1 RP	2 C	3 CR	4 PC	5 PC	6 RP
Livestock Management	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,12,13,14,15,16; AQ-O1,2,3,4,5,6,7,8,910,11,12,13,14; HA-O2,3,4,5,6,7; HU-O1,3,4,5,7; RM-O2; AM-O1,2	L	H	H	M	M	**M**
Improve rangeland	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,2,3,4,5,12,13,14,15; AQ-O1,2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7,14; RM-O2; AM-O1,2	L	L	M	L	L	**M**
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4,12,15; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,4,5,6; HU-O2,3, 4,13,14; RM-O2,3; AM-O1,2	M	L	L	L	L	**L**
Riparian restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1, 2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1,2,3,4; AM-O1,2	L	L	L	M	M	**M**
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,3,4,12,15,16; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9; RM-O2; AM-O1,2	M	M	M	L	L	**L**
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,12,15; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	H	M	L	L	**L**
Recreation activities	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,12; AQ-O1,2,3,4,7,9,12,13; HA-O4,5,6; HU-O1,3,4,7,8,10,11,12; RM-O1,2,3,4; AM-O1,2	—	—	—	—	—	**—**

STEP 8 See Table 3-5 to find the objectives and standards, including Objective TS-O15.

The following excerpt from Table 3-5 includes the following description of Objective TS-O15 under Alternative 4.

> **TS-O15. Objective:** Restore dry grasslands, dry shrublands, and cool shrublands in Range Clusters 1, 5, and 6

STEP 9 See Table 3-7, Management Activities on Eastside Rangelands (page 164), to find the level of activity for the first decade in any alternative or cluster.

In the following excerpt from Table 3-7 for Alternative 4, livestock management would be improved on 1.2 to 1.62 million acres; range improvement techniques would be applied to 705,000 to 955,000 acres; prescribed burning would be applied to 115,000 to 150,000 acres; and riparian restoration actions would occur on 55,000 to 75,000 acres of federal rangeland. There would be 25 to 50 percent decrease in primarily native surfaced road. These activities would occur across the project area in Range cluster 6 over 10 years under Alternative 4.

ACRES (thousands per decade)

Range Cluster	Livestock Management				Improve Rangelands				Prescribed Burning				Riparian Restr.	Roads Decrs.(%)
	dry grass	dry shrub	cool shrub	**Total**	dry grass	dry shrub	cool shrub	**Total**	dry grass	dry shrub	cool shrub	**Total**		
1	20-25	95-130	10-15	125-170	15-20	65-80	5-10	85-110	10-15	0	95-125	105-140	15-20	50+
2	0	5-10	0	5-10	0	0-5	0	0-5	0	0	0-5	0-5	0	0-25
3	0	10-15	0	10-15	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
4	0	0-5	0	0-5	0	0-5	0	0-5	0	0	0-5	0-5	0	25-50
5	60-85	305-410	45-55	410-550	25-35	130-165	20-25	175-225	5-10	0-5	130-155	135-170	20-30	0-25
6	180-245	900-1205	120-170	**1200-1620**	105-145	530-720	70-90	**705-955**	0	0	115-150	**115-150**	**55-75**	**25-50**
Total	260-355	1315-1775	175-240	**1750-2370**	145-200	725-980	95-125	**965-1305**	15-25	0-5	340-445	355-475	90-125	

SUMMARY Under Alternative 4, BLM-administered land south of Burns, Oregon, would generally be managed with a Restoration emphasis; there would be high levels of improved livestock management and rangeland activities, moderate levels of riparian restoration activities and decreased road density, and a low level of prescribed burning.

Forestlands

✓ My family backpacks near Kettle Falls, Washington. How can I interpret Alternative 5 for this area?

To interpret Alternative 5 for Forest Service-administered land near Kettle Falls, follow the steps described below:

STEP 1 Kettle Falls is located in northeast Washington. Refer to Map 3-11, Alternative 5 ~ Management Emphasis for Forest Clusters, to determine which forest cluster encompasses Forest Service-administered land near Kettle Falls. (Forest Service-administered land near Kettle Falls lies within Forest Cluster 6. Maps 1-1 and 1-2 show land administered by the BLM and by the Forest Service.)

STEP 2 Turn to the Description of the Alternatives section in the beginning of this chapter to determine the overall focus of Alternative 5. (Alternative 5 emphasizes production of goods and services consistent with ecosystem management principles. Areas are targeted for specific uses based on biological capability and economic efficiency; other uses may occur but conflicts would be resolved in favor of the priority use of an area.)

STEP 3 See the following excerpt from Table 3-10, Comparison of Alternatives by Management Emphasis, to determine the management emphasis assigned to Forest Cluster 6 under Alternative 5. Table 3-10 in its entirety follows this User's Guide.

As shown below in the forest cluster excerpt from Table 3-10, the **Restore-Produce** management emphasis is assigned to Forest Cluster 6 under Alternative 5.

	Alternatives						
Forest Clusters	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	C	C	CR	CR	C	CR	C
2	PC	C	R	R	CR	R	C
3	P	PC	R	R	R	R	CR
4	P	PC	RP	R	P	R	CR
5	P	CR	R	R	R	R	CR
6	PC	C	CR	R	**RP**	CR	C

STEP 4 If you want to read more about the process of assigning Management Emphases, please turn to the Rule Sets section of Appendix 3-3.

As shown in the following table excerpt, a Restore-Produce management emphasis for forest clusters means moderate or high levels of timber harvest, with two or more restoration activities at moderate or greater levels.

	Rule Set	
Management Emphasis	**Harvest**	**Restoration Activities**
C	Low	1 or less restoration activity > or = Mod
C-R	Low	2 restoration activities > or = Mod
R	**Low or Mod**	**3 or more restoration activities > or = Mod**
R-P	Mod or High	2 restoration activities > or = Mod
P	High	1 or less restoration activity > or = Mod
P-C	Mod	1 or less restoration activity > or = Mod

STEP 5 See the following excerpt from Table 3-11 for Forest Cluster 6. As shown in this excerpt, a Restore-Produce management emphasis for Forest Cluster 6 under Alternative 5 calls for moderate levels of timber harvest, thinning, and prescribed burning, and low levels of decreased road density, watershed restoration, and prescribed fire planning.

	Alternatives						
Management Activity	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Range Cluster 6							
Harvest	M	L	L	L	**M**	L	L
Thin	L	L	H	H	**M**	H	L
Decrease Road Density	L	L	L	M	**L**	L	L
Watershed Restoration	L	L	L	L	**L**	L	L
Prescribed Burning	L	L	M	M	**M**	M	M
Prescribed Fire Plan	L	L	M	M	**L**	M	M

STEP 6 See the following excerpt from Table 3-12 for forestlands to interpret what the high, moderate, and low activity levels mean. Table 3-12 in its entirety follows this User's Guide. This excerpt shows the activity levels assumed to be applied within the first decade in Forest Cluster 6 under Alternative 5. (Divide this number by 10 to see the assumed *annual* activity levels.)

Forestlands		Low	Moderate	High
Harvest (commercial)	Alts. 1, 2, 7 >	0-4	4-8	8-10
(Percent of all forested area treated per decade)	Alts. 3 to 6 >	0-5	**5-9**	9-11
Thin (pre-commercial) (Percent of all forested area treated per decade)		0-3	**3-6**	6-8
Decrease Road Density (Percent of native surface road miles reduced per decade)		**0-25**	25-50	50+
Watershed Restoration (Percent of all forested area treated per decade)		**0-3**	3-6	6-8
Prescribed Burning (Percent of all forested area treated per decade)		0-5	**5-9**	9-11
Prescribed Fire Plans (Percent of all forestland with implemented plans per decade)		**0-20**	20-40	40+

Harvest. All commercial harvest methods (for example single tree selection, group selection, shelterwood, seed tree, overstory removal, clearcut, and commercial thinning from above or below)

Thin. All pre-commercial thinnings used to alter forest structure, species composition, density, rate of growth, fuel ladders, fire behavior, etc.

Watershed Restoration. Includes increased road maintenance, improved road condition (surface and/or drainage), reduced road related erosion, road obliteration, road decommissioning, increased large woody material, riparian plantings, in-channel restoration, etc.

Decrease Road Density. Permanent closure of primarily native surface roads.

Riparian Restoration. Includes improving road condition (drainage and/or surface), riparian plantings, in-channel restoration, and riparian exclosures.

Prescribed Burning. Management ignited fire.

Prescribed Fire Plan. Allows natural ignition fires to burn when in prescription and/or identifies areas that require prescribed burning.

What this means for the first decade, under Alternative 5, in Forest Cluster 6 on Forest Service-administered lands follows:

- Greater than five to nine percent of forestlands within the cluster would be treated by timber harvest [moderate level].
- Three to six percent of forestlands would be pre-commercially thinned [moderate level].
- There would be a zero to twenty-five percent reduction in primarily native surface road miles on Forest Service-administered land [low level].
- Zero to three percent of forestlands would be treated through watershed restoration projects, such as increased road maintenance or riparian plantings [low level].

- Five to nine percent of forestlands would be prescribed burned through management ignition [moderate level].
- On zero to twenty percent of forestlands, naturally-ignited fires would be allowed to burn when in prescription, and/or areas that needed prescribed fire would be identified [low level].

STEP 7 See Table 3-13 to determine the objectives that are relevant to the various activity groups. Table 3-13, Summary of Activity Levels Matched with Relevant Objectives, in its entirety, follows this User's Guide.

As shown in this excerpt from Table 3-13, there are several objectives that are relevant to activities undertaken on Forest Service-administered land in Forest Cluster 6 under Alternative 5, including Objective TS-O6.

Management Activities	Objectives[1]	Forest Clusters 1 C	2 CR	3 R	4 P	5 R	6 RP
Harvest	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,6,7,8,9,10,11; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O2,3,5,6; HU-O1,3,4,5,7,9,13,14; RM-O1,2,4; AM-O1,2;	L	L	M	H	M	**M**
Thin	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2, 3,4,5,6,7,8,9,10,12,13; HU-O3,4,7,9,13,14; HA-O1,2, 3,5,6; RM-O1,2,4; AM-O1,2	L	L	H	H	H	M
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	L	L	M	L	M	**L**
Watershed restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,13,14; HA-O1,2,3,5,6; HU-O3,4,7; RM-O1, 2,3,4; AM-O1,2	M	M	M	L	M	**L**
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,45; TS-O1,2,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9,13,14; RM-O2; AM-O1,2	L	M	M	L	M	**M**
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O1,2,5,6; HU-O3,4,9,17; RM-O2; AM-O1,2	H	H	M	L	H	**L**

STEP 8 See Table 3-5, Objectives and Standards, to find Objective TS-O6.

The following excerpt from Table 3-5 includes Objective TS-O6 under Alternative 5.

> **Objective TS-O6:** Restore ecosystem processes by managing vegetation structure, stand density, species composition, patch size, pattern, and fuel loading and distribution so ecosystems are resilient to endemic levels of fire, insects, and disease. Priority areas for restoration are in Forest Clusters 2, 3, 5, and 6, while emphasizing timber production in Forest Cluster 4.

STEP 9 See Table 3-6, Management Activities on Eastside Forestlands, to find the level of activity for the first decade in any alternative or cluster.

In this excerpt from Table 3-6, a total of 75,000 to 100,000 acres would be subject to various harvest techniques, including commercial thinning; 30,000 to 40,000 acres would be treated with pre-commercial thinning; and 45,000 to 60,000 acres would be treated with prescribed fire. From 10,000 to 15,000 acres would be treated with watershed restoration techniques, and there would be a reduction in primarily native surface roads of 0 to 25 percent on Forest Service-administered lands. These activities would occur in Forest cluster 6 across the project area over 10 years under Alternative 5.

ACRES (thousands per decade)														
Forest Cluster	**Harvest**				**Thin**				**Prescribed Burning**				**Watershed Restr.**	**Roads Decrs.(%)**
	dry	moist	cold	**Total**	dry	moist	cold	**Total**	dry	moist	cold	**Total**		
1	0	0	0	0	4-7	1-2	0-1	5-10	15-19	4-5	0-1	20-25	20-25	0-25
2	55-73	19-25	1-2	75-100	40-55	11-15	4-5	55-75	161-219	43-58	11-15	215-290	120-165	0-25
3	40-51	14-18	0-1	55-70	33-44	9-12	3-4	45-60	41-56	11-15	3-4	55-75	30-40	25-50
4	139-190	48-65	4-5	190-260	73-101	20-27	7-9	100-135	52-71	14-19	4-5	70-95	25-35	0-25
5	489-664	168-228	13-18	670-910	277-379	76-103	27-34	380-515	368-500	98-133	25-32	490-665	280-380	25-50
6	55-73	19-25	1-2	**75-100**	22-29	6-8	2-3	**30-40**	34-45	9-12	2-3	**45-60**	**10-15**	**0-25**
Total	780-1055	270-360	15-25	**1065-1440**	450-620	125-165	40-50	**615-835**	670-915	180-240	45-55	895-1210	485-660	

SUMMARY Under Alternative 5, Forest Service-administered land near Kettle Falls would generally be managed with a Restoration-Production emphasis; there would be moderate levels of timber harvest, thinning, and prescribed burning, and low levels of decreased road density, watershed restoration, and prescribed fire planning.

✓ Where do I find information that is the same for all of the action alternatives (Alternatives 3 to 7)?

Information common to all action alternatives, is found in the section entitled Features Common to Alternatives 3 through 7 earlier in this chapter). This section includes the goals and Desired Range of Future Conditions.

✓ What is each alternative trying to achieve?

The Desired Range of Future Conditions (DRFC) describes what the EIS Teams desire or expect each alternative to achieve. The DRFC is a portrayal of the land, resource, and social and economic conditions that are expected to result in 50 to 100 years if the alternative is carried out. The DRFC for each alternative is found in two places: (1) DRFCs that are common to the action alternatives are found in the Features Common to Alternatives 3 through 7 section; and (2) DRFCs that are unique for each alternative are found in the Description of Alternatives section, beginning on page 3.

✓ Where can I find general information about each alternative?

General information about each alternative is found in the Description of the Alternatives section at the beginning of the chapter. Each alternative's description includes the theme, design of the alternative, and the Desired Range of Future Conditions. General features of each alternative are also illustrated on the accompanying maps.

✓ What are the pieces of each alternative?

Each alternative consists of several pieces that must be linked to fully understand the alternative's intent and application. These pieces and their linkages are described below. Please refer to the first two questions in this User's Guide for a step-by-step example of how these pieces fit together.

- Table 3-10, Comparison of Alternatives by Management Emphases, shows the management emphasis assigned to each forest and range cluster under each alternative. Table 3-10, in its entirely, follows this User's Guide.
- Appendix 3-3 includes the rule sets that help determine the management emphases shown in Table 3-10.
- Table 3-11, Comparison of Alternatives by Management Activity and Cluster, applies the rules described in the rule sets. Table 3-11, in its entirely, follows this User's Guide.
- Table 3-12, Cluster Activity Level Assumptions for All Action Alternatives, interprets the low, medium, and high activity levels. Table 3-12, in its entirely, follows this User's Guide.
- Table 3-13, Summary of Activity Levels Matched with Relevant Objectives, summarizes for each alternative the management emphasis and levels of management activities assigned to each cluster. These tables also indicate the objectives that are relevant for specific management activities.
- Table 3-5, Description of Objectives and Standards, describes the objectives and standards for each alternative. Objectives are measurable and time-specific indicators against which progress can be gauged. Standards are mandatory actions or prohibitions needed to achieve the objectives.

✓ How can I quickly compare the alternatives?

To quickly compare the overall approach of the alternatives, see Table 3-8, Comparison of Alternatives by Theme, earlier in this chapter.

To compare the levels of management activities assigned to each forest or range cluster, see Table 3-11, Comparison of Alternatives by Management Activity and Cluster, on page 188.

To compare the amounts and types of activities expected under each alternative, see Tables 3-6 and 3-7, Management Activities on Eastside Forestlands, and Management Activities on Eastside Rangelands.

To quickly compare the anticipated impacts of the alternatives, see Table 3-9, Relative Comparison of the Effects of the Alternatives, and the preceding discussion.

Table 3-10. Comparison of Alternatives by Management Emphases

	Alternatives						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Forest Clusters							
1	C	C	CR	CR	C	CR	C
2	PC	C	R	R	CR	R	C
3	P	PC	R	R	R	R	CR
4	P	PC	RP	R	P	R	CR
5	P	CR	R	R	R	R	CR
6	PC	C	CR	R	RP	CR	C
Range Clusters							
1	P	PC	RP	R	RP	R	CR
2	C	C	C	CR	C	CR	C
3	PC	C	CR	R	CR	CR	C
4	P	PC	RP	R	PC	R	CR
5	P	PC	R	R	PC	CR	C
6	P	PC	RP	R	RP	R	CR

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Table 3-11. Comparison of Alternatives by Management Activity and Cluster

Management Activity	Alternatives 1	2	3	4	5	6	7
Forest Cluster 1							
Harvest	L	L	L	L	L	L	L
Thin	L	L	L	L	L	L	L
Decrease Road Density	L	L	L	L	L	L	L
Watershed Restoration	L	M	M	M	M	M	L
Prescribed Burning	L	L	M	H	L	M	L
Prescribed Fire Plan	H	H	H	H	H	H	H
Forest Cluster 2							
Harvest	M	L	L	L	L	L	L
Thin	L	L	L	M	L	M	L
Decrease Road Density	L	L	M	M	L	M	M
Watershed Restoration	L	M	M	H	M	M	L
Prescribed Burning	L	L	M	H	M	M	L
Prescribed Fire Plan	H	H	H	H	H	H	H
Forest Cluster 3							
Harvest	H	M	M	M	M	L	L
Thin	M	L	M	H	H	M	L
Decrease Road Density	L	L	M	M	M	H	H
Watershed Restoration	L	M	M	M	M	M	L
Prescribed Burning	L	L	M	M	M	M	M
Prescribed Fire Plan	L	L	L	M	M	M	H
Forest Cluster 4							
Harvest	H	M	M	M	H	M	L
Thin	M	M	H	H	H	H	L
Decrease Road Density	L	L	M	M	L	M	M
Watershed Restoration	L	L	L	M	L	M	L
Prescribed Burning	L	L	L	M	L	M	M
Prescribed Fire Plan	L	L	L	M	L	M	M
Forest Cluster 5							
Harvest	H	L	M	M	M	L	L
Thin	M	M	H	H	H	H	M
Decrease Road Density	L	M	H	H	M	M	H
Watershed Restoration	L	L	L	M	M	M	L
Prescribed Burning	L	L	M	H	M	H	L
Prescribed Fire Plan	L	L	M	H	H	H	M
Forest Cluster 6							
Harvest	M	L	L	L	M	L	L
Thin	L	L	H	H	M	H	L
Decrease Road Density	L	L	L	M	L	L	L
Watershed Restoration	L	L	L	L	L	L	L
Prescribed Burning	L	L	M	M	M	M	M
Prescribed Fire Plan	L	L	M	M	L	M	M

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Table 3-11. Comparison of Alternatives by Management Activity and Cluster (continued)

Management Activity	Alternatives 1	2	3	4	5	6	7
Range Cluster 1							
Livestock Management	L	M	M	M	L	M	H
Improve Rangeland	L	L	M	M	L	M	L
Decrease Road Density	L	L	L	H	M	M	M
Riparian Restoration	L	L	L	M	L	M	L
Prescribed Burning	L	L	M	H	M	H	M
Prescribed Fire Plan	L	L	M	H	H	H	H
Range Cluster 2							
Livestock Management	H	H	H	H	H	H	H
Improve Rangeland	L	L	L	L	L	L	L
Decrease Road Density	L	L	L	L	L	L	L
Riparian Restoration	L	L	L	M	L	M	L
Prescribed Burning	L	L	M	H	M	M	L
Prescribed Fire Plan	H	H	H	H	H	H	H
Range Cluster 3							
Livestock Management	M	H	H	H	H	H	H
Improve Rangeland	L	L	L	M	M	M	L
Decrease Road Density	L	L	L	M	L	L	M
Riparian Restoration	L	M	M	M	L	L	L
Prescribed Burning	L	L	M	H	M	M	L
Prescribed Fire Plan	L	L	M	H	M	H	H
Range Cluster 4							
Livestock Management	L	M	M	M	M	M	H
Improve Rangeland	L	L	L	M	L	M	L
Decrease Road Density	L	L	M	M	L	M	M
Riparian Restoration	L	L	L	M	M	M	M
Prescribed Burning	L	L	M	M	L	L	L
Prescribed Fire Plan	L	L	L	M	L	M	M
Range Cluster 5							
Livestock Management	L	M	M	H	M	H	H
Improve Rangeland	L	L	M	M	L	L	L
Decrease Road Density	L	L	L	L	L	L	L
Riparian Restoration	L	L	M	M	M	M	L
Prescribed Burning	L	L	M	M	L	M	M
Prescribed Fire Plan	L	L	L	M	L	M	H
Range Cluster 6							
Livestock Management	L	M	M	H	M	H	H
Improve Rangeland	L	L	M	H	M	M	L
Decrease Road Density	L	L	L	M	L	M	M
Riparian Restoration	L	L	M	M	M	M	M
Prescribed Burning	L	L	L	L	L	L	L
Prescribed Fire Plan	L	L	L	L	L	L	M

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Table 3-12. Cluster Activity Level Assumptions for All Action Alternatives 3 through 7.

		Low	Moderate	High
Forestland				
Harvest (commercial)	Alts. 1,2,7 >	0-4	4-8	8-10
(Percent of all forested area treated per decade)	Alts. 3-6 >	0-5	5-9	9-11
Thin (pre-commercial)				
(Percent of all forested area treated per decade)		0-3	3-6	6-8
Decrease Road Density				
(Percent of total road miles reduced per decade)		0-25	25-50	50+ Chg. RDC[1]
Watershed Restoration				
(Percent of all forested area treated per decade)		0-3	3-6	6-8
Prescribed Burning				
(Percent of all forested area treated per decade)		0-5	5-9	9-11
Prescribed Fire Plans				
(Percent of all forestland with implemented plans per decade)		0-20	20-40	40+
Rangeland				
Livestock Management				
(Percent of all rangeland with improved management)		0-6	6-12	12-20
Improve Rangelands				
(Percent of all rangeland treated per decade)		0-4	4-8	8-11
Decrease Road Density				
(Percent of total road miles reduced per decade)		0-25	25-50	50+ Chg. RDC[1]
Riparian Restoration				
(Percent of all riparian areas treated per decade)		0-25	25-50	50-75
Prescribed Burning				
(Percent of all rangeland treated per decade)		0-3	3-6	6-9
Prescribed Fire Plans				
(Percent of all rangeland with implemented plans per decade)		0-20	20-40	40+

Harvest. All commercial harvest methods (for example single tree selection, group selection, shelterwood, seed tree, overstory removal, clearcut, and commercial thinning from above or below)

Thin. All pre-commercial thinnings used to alter forest structure, species composition, density, rate of growth, fuel ladders, fire behavior, etc.

Watershed Restoration. Includes increased road maintenance, improved road condition (surface and/or drainage), reduced road related erosion, road obliteration, increased large woody material, riparian plantings, in-channel restoration, etc.

Livestock Management. A summation of livestock management variables that affect rangeland health, including: grazing systems, changing riparian grazing management, season of use (length and timing), number of head: change of class, distribution, grazing deferment, and herding.

Improve Rangelands. Capital investments: fencing, stock water improvements, seedings, control of invasion or spread of exotics, and non-fire shrub and juniper control.

Decrease Road Density. Permanent closure of primarily unsurfaced roads.

Riparian Restoration. Includes improving road condition (drainage and/or surface), riparian plantings, in-channel restoration, and riparian exclosures.

Prescribed Burning. Management ignited fire.

Prescribed Fire Plan. Allows natural ignition fires to burn when in prescription and/or identifies areas that require prescribed burning.

[1] **Chg. RDC =** Change in road density class (see Table 3 in Appendix 3-3).

Table 3-13. Summary of Activity Levels Matched with Relevent Objectives.

Alternative 1

Management Activities	Objectives[1]	Forest Clusters 1 C[2]	2 PC	3 P	4 P	5 P	6 PC
Harvest	A1/PE-O1,2,3,4,5; A1/TE-O2,3,4,6; A1/AQ-O1,2,3,4,5; A1/HU-O2,3,5,7; NW-O1,2,3,8,9,10,11,14,15,16,18,20; HA-O6; AM-O1,2	L[3]	M	H	H	H	M
Thin	A1/PE-O1,2,3,4,5; A1/TE-O2,3,4,6; A1/AQ-O1,2,3,4,5; A1/HU-O2,3,5,7; NW-O1,2,3,8,9,10,11,14,15,16,18,20	L	L	M	M	M	L
Decrease road density	A1/TE-O2,6,7; AQ-O1,2,3,4,5; A1/HU-O2,3,10; NW-O1,2,3,8,9,10,11	L	L	L	L	L	L
Watershed restoration	A1/PE-O1,2,3,4,5; A1/TE-O2,4,6,7; A1/AQ-O1,2,3,4,5; A1/HU-O3,5,7; A1/IA-O1; NW-O1,2,3,5,7,8,9, 10,11	L	L	L	L	L	L
Prescribed burning	A1/PE-O1,2,3,4,5,6; A1/TE-O1,2,7; A1/AQ-O2,3,4,5; A1/HU-O3,7; NW-O1,7,9,10,11	L	L	L	L	L	L
Prescribed fire plans	A1/PE-O1,2,3,4,5,6; A1/TE-O1,2,7; A1/AQ-O2,3,4,5; A1/HU-O3,7; NW-O1,7,9,10,11	H	H	L	L	L	L

		Range Clusters 1 P	2 C	3 PC	4 P	5 P	6 P
Livestock Management	A1/PE-O1,2,3,4,5; A1/TE-O2,5,6; A1/AQ-O1,2,3,4,5; A1/HU-O2,3,5,7; NW-O1,2,3	L	H	M	L	L	L
Improve rangeland	A1/PE-O1,2,3,4,5; A1/TE-O2,6; A1/AQ-O1,2,3,4,5; A1/HU-O3,5,7; NW-O1,2,3	L	L	L	L	L	L
Decrease road density	A1/TE-O2,6; A1/AQ-O1,2,3,4,5; A1/HU-O2,3,10; NW-O1,2,3	L	L	L	L	L	L
Riparian restoration	A1/PE-O1,2,3,4,5; A1/TE-O2,6,7; A1/AQ-O2,3,4,5; A1/HU-O2,3,5,7; A1/IA-O1; NW-O1,2,3,5,7	L	L	L	L	L	L
Prescribed burning	A1/PE-O1,2,3,4,5,6; A1/TE-O1,2,7; A1/AQ-O2,3,4,5; A1/HU-O3,7; NW-O1,7	L	L	L	L	L	L
Prescribed fire plans	A1/PE-O1,2,3,4,5,6; A1/TE-O1,2,7; A1/AQ-O2,3,4,5; A1/HU-O3,7; NW-O1,7	L	H	L	L	L	L
Recreation activities	A1/PE-O1,2,3,4,5; A1/TE-O2,6,7; A1/AQ-O1,2,3,4,5; A1/HU-O1,3,5,7; NW-O1; HU-O10,11	—	—	—	—	—	—

[1] Objectives for Alternatives 1 and 2 vary according to the current plans for individual National Forests and BLM Resource Areas and may not correspond directly to the specific objectives prepared for Alternatives 3 to 7.

[2] Management Emphases: C = Conserve; CR = Conserve/Restore; R = Restore; RP = Restore/Produce; P = Produce; PC = Produce/Conserve

[3] See Table 3-12 for definitions and assumptions.

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Table 3-13. Summary of Activity Levels Matched with Relevent Objectives (continued).

Alternative 2

Management Activities	Objectives[1]	Forest Clusters 1 C	2 C	3 PC	4 PC	5 CR	6 C
Harvest	A2/AQ-O1,2,3,4; A2/TE-O1,2,3,4,5,6,7; HA-O6; AM-O1,2	L	L	M	M	L	L
Thin	A2/AQ-O1,2,3,4; A2/TE-O1,2,3,4,5,6,7	L	L	L	M	M	L
Decrease road density	A2/AQ-O1,2,3,4; A2/TE-O1,2,3,4,5,6,7	L	L	L	L	M	L
Watershed restoration	A2/AQ-O1,2,3,4; A2/TE-O1,2,3,4,5,6,7	M	M	M	L	L	L
Prescribed burning	A2/AQ-O1,2,3,4; A2/TE-O1,2,3,4,5,6,7	L	L	L	L	L	L
Prescribed fire plans	A2/AQ-O1,2,3,4; A2/TE-O1,2,3,4,5,6,7	H	H	L	L	L	L

		Range Clusters 1 PC	2 C	3 C	4 PC	5 PC	6 PC
Livestock Management	A2/AQ-O1,2,3,4	M	H	H	M	M	M
Improve rangeland	A2/AQ-O1,2,3,4	L	L	L	L	L	L
Decrease road density	A2/AQ-O1,2,3,4	L	L	L	L	L	L
Riparian restoration	A2/AQ-O1,2,3,4	L	L	M	L	L	L
Prescribed burning	A2/AQ-O1,2,3,4	L	L	L	L	L	L
Prescribed fire plans	A2/AQ-O1,2,3,4	L	H	L	L	L	L
Recreation activities	A2/AQ-O2,3; A2/TE-O4,5,6,7; HU-O10,11	—	—	—	—	—	—

[1] Objectives for Alternatives 1 and 2 vary according to the current plans for individual National Forests and BLM Resource Areas and may not correspond directly to the specific objectives prepared for Alternatives 3 to 7.

Alternative 3

Management Activities	Objectives[1]	Forest Clusters 1 CR	2 R	3 R	4 R	5 R	6 R
Harvest	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,6,7,8,9,10,11; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O2,3,5,6; HU-O1,3,4,5,6,7,9,13,14; RM-O1,2,4; AM-O1,2;	L	L	M	M	M	L
Thin	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,12,13; HU-O3,4,7,9,13,14; HA-O1,2, 3,5,6; RM-O1,2,4; AM-O1,2	L	M	H	H	H	H
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	L	M	M	M	H	M
Watershed restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,13,14; HA-O1,2,3,5,6; HU-O3,4,7; RM-O1, 2,3,4; AM-O1,2	M	H	M	M	M	L
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,45; TS-O1,2,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9,13,14; RM-O2; AM-O1,2	H	H	M	M	H	M
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O1,2,3,5,6; HU-O3,4,9,17; RM-O2; AM-O1,2	H	H	M	M	H	M

		Range Clusters 1 R	2 CR	3 R	4 R	5 R	6 R
Livestock Management	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,12,13,14,15; AQ-O1,2,3,4,5,6,7,910,11,12,13,14; HA-O2,3,4,5,6,7; HU-O1,3,4,5,6,7; RM-O2; AM-O1,2	M	H	H	M	H	H
Improve rangeland	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,2,3,4,5,12,13,14,15; AQ-O1,2,3,4,5,6,7,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7,14; RM-O2; AM-O1,2	M	L	M	M	M	H
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,4,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	H	L	M	M	L	M
Riparian restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1, 2,3,4,5,6,7,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1,2,3,4; AM-O1,2	M	M	M	M	M	M
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,3,4,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	H	H	M	M	L
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	H	H	M	M	L
Recreation activities	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,12; AQ-O1,2,3,4,7,9,12,13; HA-O4,5,6; HU-O1,3,4,7,8,10,11,12; RM-O1,2,3,4; AM-O1,2	—	—	—	—	—	—

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Table 3-13. Summary of Activity Levels Matched with Relevent Objectives (continued).

Alternative 4

Management Activities	Objectives[1]	Forest Clusters 1 CR	2 R	3 R	4 R	5 R	6 R
Harvest	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,6,7,8,9,10,11; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O2,3,5,6; HU-O1,3,4,5,7,9,13,14; RM-O1,2,4; AM-O1,2;	L	L	M	H	M	M
Thin	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2, 3,4,5,6,7,8,9,10,12,13; HU-O3,4,7,9,13,14; HA-O1,2, 3,5,6; RM-O1,2,4; AM-O1,2	L	L	H	H	H	M
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	L	L	M	L	M	L
Watershed restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,13,14; HA-O1,2,3,5,6; HU-O3,4,7; RM-O1, 2,3,4; AM-O1,2	M	M	M	L	M	L
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,45; TS-O1,2,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9,13,14; RM-O2; AM-O1,2	L	M	M	L	M	M
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O1,2,5,6; HU-O3,4,9,17; RM-O2; AM-O1,2	H	H	M	L	H	L

		Range Clusters 1 RP	2 C	3 CR	4 PC	5 PC	6 RP
Livestock Management	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,12,13,14,15,16; AQ-O1,2,3,4,5,6,7,8,910,11,12,13,14; HA-O2,3,4,5,6,7; HU-O1,3,4,5,7; RM-O2; AM-O1,2	L	H	H	M	M	M
Improve rangeland	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,2,3,4,5,12,13,14,15; AQ-O1,2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7,14; RM-O2; AM-O1,2	L	L	M	L	L	M
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4,12,15; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,4,5,6; HU-O2,3, 4,13,14; RM-O2,3; AM-O1,2	M	L	L	L	L	L
Riparian restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1, 2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1,2,3,4; AM-O1,2	L	L	L	M	M	M
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,3,4,12,15,16; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9; RM-O2; AM-O1,2	M	M	M	L	L	L
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,12,15; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	H	M	L	L	L
Recreation activities	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,12; AQ-O1,2,3,4,7,9,12,13; HA-O4,5,6; HU-O1,3,4,7,8,10,11,12; RM-O1,2,3,4; AM-O1,2	—	—	—	—	—	—

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Alternative 5

Management Activities	Objectives[1]	Forest Clusters 1 C	2 CR	3 R	4 P	5 R	6 RP
Harvest	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,6,7,8,9,10,11; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O2,3,5,6; HU-O1,3,4,5,7,9,13,14; RM-O1,2,4; AM-O1,2;	L	L	M	H	M	M
Thin	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2, 3,4,5,6,7,8,9,10,12,13; HU-O3,4,7,9,13,14; HA-O1,2, 3,5,6; RM-O1,2,4; AM-O1,2	L	L	H	H	H	M
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	L	L	M	L	M	L
Watershed restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,13,14; HA-O1,2,3,5,6; HU-O3,4,7; RM-O1, 2,3,4; AM-O1,2	M	M	M	L	M	L
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,45; TS-O1,2,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9,13,14; RM-O2; AM-O1,2	L	M	M	L	M	M
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O1,2,5,6; HU-O3,4,9,17; RM-O2; AM-O1,2	H	H	M	L	H	L

		Range Clusters 1 RP	2 C	3 CR	4 PC	5 PC	6 RP
Livestock Management	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,12,13,14,15,16; AQ-O1,2,3,4,5,6,7,8,910,11,12,13,14; HA-O2,3,4,5, 6,7; HU-O1,3,4,5,7; RM-O2; AM-O1,2	L	H	H	M	M	M
Improve rangeland	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,2,3,4,5,12,13,14,15; AQ-O1,2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7,14; RM-O2; AM-O1,2	L	L	M	L	L	M
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4,12,15; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,4,5,6; HU-O2,3, 4,13,14; RM-O2,3; AM-O1,2	M	L	L	L	L	L
Riparian restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1, 2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1,2,3,4; AM-O1,2	L	L	L	M	M	M
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,3,4,12,15,16; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9; RM-O2; AM-O1,2	M	M	M	L	L	L
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,12,15; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	H	M	L	L	L
Recreation activities	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,12; AQ-O1,2,3,4,7,9,12,13; HA-O4,5,6; HU-O1,3,4,7,8,10,11,12; RM-O1,2,3,4; AM-O1,2	—	—	—	—	—	—

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Table 3-13. Summary of Activity Levels Matched with Relevent Objectives (continued).

Alternative 6

Management Activities	Objectives[1]	Forest Clusters 1 CR	2 R	3 R	4 R	5 R	6 CR
Harvest	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,6,7,8,9,10,11; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O2,3,5,6; HU-O1,3,4,5,6,7,9,13,14; RM-O1,2,4; AM-O1,2;	L	L	L	M	L	L
Thin	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,12,13; HU-O3,4,7,9,13,14; HA-O1,2, 3,5,6; RM-O1,2,4; AM-O1,2	L	M	M	H	H	H
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4; AQ-O1,2,3,4,5,6, 7,9,10,12,13,14; HA-O2,3,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	L	M	H	M	M	L
Watershed restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,13; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1, 2,3,4; AM-O1,2	M	M	M	M	M	L
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,45; TS-O1,2,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O1,2,5,6; HU-O3,4,9,13,14; RM-O2; AM-O1,2	M	M	M	M	H	M
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,6,8,10; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O1,2,5,6; HU-O3,4,9,17; RM-O2; AM-O1,2	H	H	M	M	H	M

		Range Clusters 1 R	2 CR	3 CR	4 R	5 CR	6 R
Livestock Management	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,12,13,14,15; AQ-O1,2,3,4,5,6,7,910,11,12,13,14; HA-O2,3,4,5,6,7; HU-O1,3,4,5,6,7; RM-O2; AM-O1,2	M	H	H	M	H	H
Improve rangeland	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,2,3,4,5,12,13,14,15; AQ-O1,2,3,4,5,6,7,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7,14; RM-O2; AM-O1,2	M	L	M	M	L	M
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,4,5,6; HU-O2,3,4, 13,14; RM-O2,3; AM-O1,2	M	L	L	M	L	M
Riparian restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1, 2,3,4,5,6,7,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1,2,3,4; AM-O1,2	M	M	L	M	M	M
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,3,4,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	M	M	L	M	L
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3, 4,9; RM-O2; AM-O1,2	H	H	H	M	M	L
Recreation activities	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,12; AQ-O1,2,3,4,7,9,12,13; HA-O4,5,6; HU-O1,3,4,7,8,10,11,12; RM-O1,2,3,4; AM-O1,2	—	—	—	—	—	—

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Alternative 7

Management Activities	Objectives[1]	Forest Clusters 1 C	2 C	3 CR	4 CR	5 CR	6 C
Harvest	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,6,7,8,9,10,11; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O2,3,5,6; HU-O1,3,4,5,6,7,9,13,14; RM-O1,2,4; AM-O1,2	L	L	L	L	L	L
Thin	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O1,2,3,5,6; HU-O3,4,7, 9,13,14; RM-O1,2,4; AM-O1,2	L	L	L	L	M	L
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O2,3,5,6; HU-O2,3,4,13,14; RM-O2,3; AM-O1,2	L	M	H	M	H	L
Watershed restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,13,14; HA-O1,2,3,5,6; HU-O3,4,7; RM-O1, 2,3,4; AM-O1,2	L	L	L	L	L	L
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,45; TS-O1,2,3,4,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9,13,14; RM-O2; AM-O1,2	L	L	M	M	L	M
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,6,8,10; AQ-O1,2,3,4,5,6,7,8,9,10,12,13,14; HA-O1,2,5,6; HU-O3,4,9,17; RM-O2; AM-O1,2	H	H	H	M	M	M

		Range Clusters 1 CR	2 C	3 C	4 CR	5 C	6 CR
Livestock Management	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,12,14,15; AQ-O1,2,3,4,5,6,7,8,910,11,12,13,14; HA-O2,3,4,5,6,7; HU-O1,3,4,5,6,7; RM-O2; AM-O1,2	H	H	H	H	H	H
Improve rangeland	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1,2,3,4,5,6,7,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7,14; RM-O2; AM-O1,2	L	L	L	L	L	L
Decrease road density	EM-O1,2,3; PE-O1,2,3,4; TS-O1,4,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3,4,13,14; RM-O2,3; AM-O1,2	M	L	M	M	L	M
Riparian restoration	EM-O1,2,3; PE-O1,2,3,4; TS-O1,3,4,5,12,14,15; AQ-O1, 2,3,4,5,6,7,8,9,10,11,12,13,14; HA-O1,2,3,4,5,6; HU-O3,4,7; RM-O1,2,3,4; AM-O1,2	L	L	L	M	L	M
Prescribed burning	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,3,4,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13; HA-O1,2,5,6; HU-O3,4,9; RM-O2; AM-O1,2	M	L	L	L	M	L
Prescribed fire plans	EM-O1,2,3,4; PE-O1,2,3,4,5; TS-O1,2,12,15; AQ-O1,2,3,4,5,6,7,9,10,12,13,14; HA-O2,3,4,5,6; HU-O3,4,9; RM-O2; AM-O1,2	H	H	H	M	H	M
Recreation activities	EM-O1,2,3,4; PE-O1,2,3,4; TS-O1,4,12; AQ-O1,2,3,4,7,9,12,13; HA-O4,5,6; HU-O1,3,4,7,8,10,11,12; RM-O1,2,3,4; AM-O1,2	—	—	—	—	—	—

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